UNDERGROUND STORAGE TANK CLOSURE ASSESSMENTS

NAVAL EDUCATION AND TRAINING CENTER CODDINGTON POINT, MELVILLE, GOULD ISLAND

NETC Contract No. N62472-94-M-1946

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 20, 1994

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Prepared by:

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EXECUTIVE SUMMARY

The Newport Naval Base has been in existence for many years. A large portion of the buildings and facilities were constructed as part of the war effort prior to World War II. During recent years, buildings have been remodeled to provide alternate uses, while some have been demolished. Many of the buildings originally heated with oil have since been refitted to utilize central steam heat, eliminating the need for boilers and individual fuel oil tanks. Approximately eight tank locations in the Coddington Cove and Melville (MEL) areas are registered with the RI Department of Environmental Management (DEM) as having abandoned or existing underground fuel oil tanks on site even though Navy records indicate they were previously removed.

Underground tanks located at the former Building 44 on the now inactive Gould Island facility were contracted to be closed in-place in 1989. The eight tanks are currently listed by RIDEM as abandoned and that closure was not completed.

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform tank closure assessments of the underground storage tanks (USTs) at the above referenced locations. The purpose of the study was to confirm the status of the underground storage tanks (UST) which NETC records indicate were excavated and removed or closed in-place, but are identified by the RIDEM UST Program as abandoned or existing.

As part of each closure assessment, available RIDEM and NETC records were reviewed. The former UST location was identified and a site reconnaissance and magnetometer survey was performed. Subsurface explorations such as soil test borings and/or test pit excavations were performed in the vicinity of the subject UST grave. Soil composition was noted and samples recovered for field screening and laboratory analysis. Soil samples from each location were submitted to a laboratory and analyzed for the presence of volatile organics (VOCs) and total petroleum hydrocarbons (TPH).

The results of the study are presented herein as a series of UST closure assessment reports. Each location has its own UST facility ID, therefore, the reports are prepared to stand alone for ease of submittal to RIDEM. The reader is directed to the attached Table I, summarizing the findings for each location. Former tank locations and tank graves in the Coddington Point (CP) area and in the Melville area were identified using record drawings provided by NETC and on file with the RIDEM. Each tank grave was pinpointed on the map and confirmed by field observations. Portions of the mapping are reproduced in Figures 1, 2, and 3 attached to this summary. The tank locations at the former Building 44 area of Gould Island were located using record and demolition drawings provided by NETC and confirmed by test pit observations.

No abandoned tanks were found at the study locations. All tanks were found to be either removed or replaced with the exception of the Gould Island tanks which were closed in place. Based on the information gathered during the course of this study, each tank site falls into one of two categories. The term NO FURTHER ACTION is used for sites where tank removal is confirmed and residual contamination in the tank grave is absent or low. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate

the tank was closed. FURTHER ACTION is applied to those sites where additional investigation is recommended or where additional soil remediation or groundwater monitoring may be required as part of a closure plan. The RI DEM should issue the NETC a Certificate of Closure and refer the site to the LUST section for further action. A summary of the findings for each of the sites within the two categories is presented below:

NO FURTHER ACTION

Building 1121 CP (FAC ID: 15011)

It is ERA's opinion that the subject 1,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 1121 heating system was converted to central steam. Subsurface soil explorations and analysis for VOCs and total petroleum hydrocarbons were performed. No evidence was found to suggest subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. No further site investigation or remediation is recommended.

Building 115 MEL (FAC ID: 15010)

It is ERA's opinion that the subject 1000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records. Subsurface soil explorations and analysis for VOCs and total petroleum hydrocarbons were performed. No evidence was found to suggest significant subsurface soil or groundwater impact as a result of leakage or a past release from the subject underground tank. It is ERA's opinion that further site investigation or remediation is not warranted.

Building 1920 CP (FAC ID: 15012)

It is ERA's opinion that the subject 1000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records. Subsurface soil explorations, including test boring and test pitting were performed in the former UST grave. Soil samples were analyzed for the presence of VOCs and total petroleum hydrocarbons. No evidence was found to suggest significant subsurface soil or groundwater impact as a result of past leakage or a release from the subject underground tank. It is ERA's opinion that further site investigation or remediation is not warranted.

Building 302 CP (FAC ID: 15013)

It is ERA's opinion that the subject 3,000 gallon underground storage tank was removed by the Navy in 1980, as indicated in NETC records, when Building 302 heating system was converted to central steam. Soil samples taken during test pit exploration were analyzed for TPH and VOCs. No evidence was found to suggest subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. No further site investigation or remediation is recommended.

Building 304 CP (FAC ID: 15014)

It is ERA's opinion that the subject 1,000 gallon underground storage tank was removed by the Navy in 1974, as indicated in NETC records, when Building 304 heating system was converted to central steam. Soil samples taken during test pit exploration were analyzed for TPH and VOCs. No evidence was found to suggest significant subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. No further site investigation or remediation is recommended.

Building 404 CP (FAC ID: 198)

It is ERA's opinion that the subject 2,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 404 was demolished. A 2,500 gallon No.2 fuel oil tank is present in the subject UST grave and serves Building 1286. Soil samples taken from the area of the tank grave were tested for presence of TPH and VOCs. No evidence was found to suggest significant subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. No further site investigation or remediation is recommended.

FURTHER ACTION

Building 340 CP (FAC ID: 203)

NETC Records indicate that the subject 500 gallon No. 2 fuel oil tank was removed in 1990 and replaced with a new 500 gallon tank. Evidence was found to suggest subsurface soil and groundwater impact as a result of a past release or leakage in the vicinity of the subject UST grave. The source and extent of the contamination was not determined and is beyond the scope of this study. It is ERA's opinion that further site investigation is warranted.

Building 402 CP (FAC ID: 196)

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 3,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 402 was demolished. During subsurface explorations, evidence was found suggesting subsurface soil and groundwater impact as a result of leakage or a past release from the subject underground tank. Petroleum contaminated soils were encountered in the vicinity of the former UST at a depth of 6-7 feet from grade. The extent of contamination is unknown at the present time. It is ERA's opinion that further site investigation or remediation for the site is warranted.

Building 44 GI (FAC ID: 211)

NETC records indicate that product from the tanks were removed, the two steel tanks were removed, and the five concrete vessels were cleaned and backfilled. ERA's field explorations confirm the above. Records also indicate that a UST closure plan was approved by RIDEM and that a closure application was made. No records of the installation or

sampling of monitoring wells as required by the RIDEM was found and no serviceable monitoring wells were found at the site. Site conditions also indicate that oil contamination exists outside the tanks. Perched water was encountered in each of the tanks, suggesting the integrity of the tanks floors and remaining walls is tight. No evidence of residual contamination was noted inside any of the tanks.

Based on the information gathered from RIDEM files, NETC files, interviews and field explorations described above the following opinions is offered:

1. The two 5,000 gallon steel tanks were removed from the site in 1989.

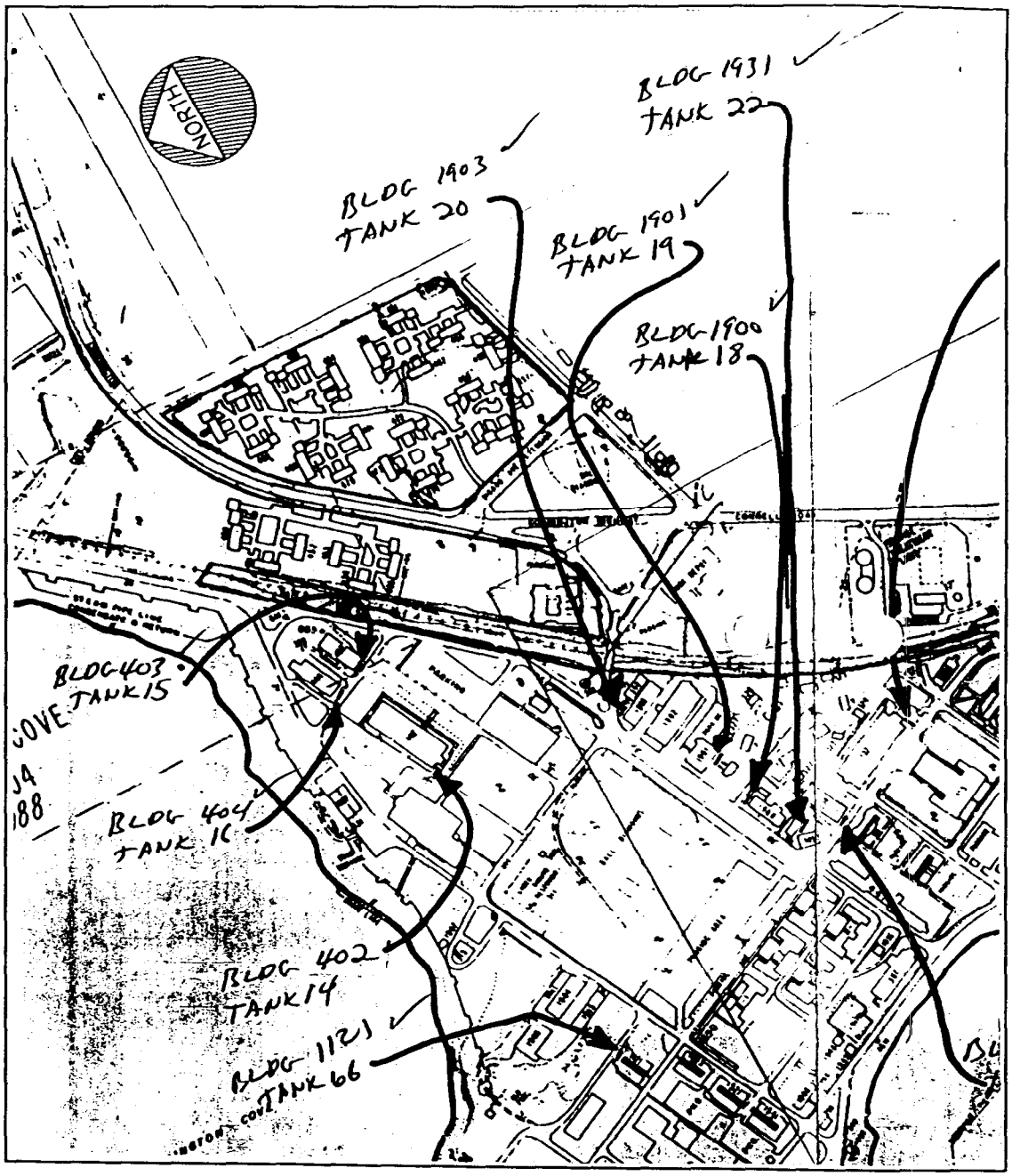
2. The five 20,000 gallon concrete tanks remain in-place and have been cleaned, had the tops demolished and backfilled per the approved closure plan.

3. One of the three referenced groundwater monitoring wells required by the closure plan was found to be unserviceable. The remaining two wells could not be located and are presumed buried or destroyed. No documentation was found to indicate the wells had ever been sampled and analyzed.

4. Residual contamination consisting of a mixture of No.5 and No.2 fuels was found in test pits located outside and adjacent to the concrete tanks. In addition to oil contaminated soils, free product was also observed.

RI DEM should issue a Certificate of Closure to the NETC and correct Master List; however, Site Investigation Report (SIR), if required, for these tanks should be forwarded to the LUST Section for further action.

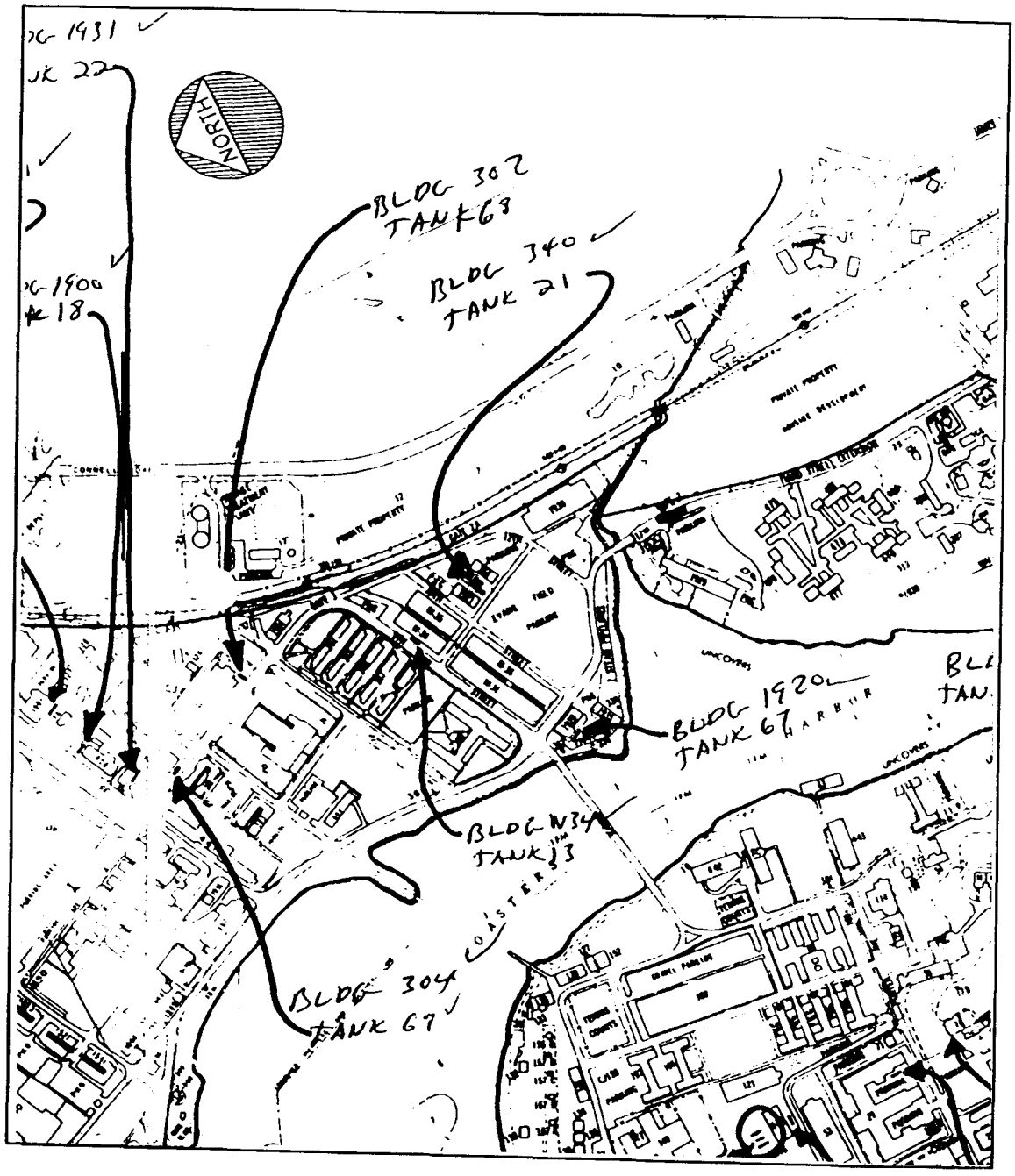
The presence of subsurface contamination in the vicinity of the tanks will need to be addressed. Groundwater impact and the extent of contamination is unknown at this juncture. RIDEM should be notified of existing site conditions. It is ERA's opinion that additional investigation is warranted to define the problem. The placement of the above mentioned groundwater wells will assist in defining the extent of impact. Additional well installation(s) or test pitting may also be recommended.



Ref: Naval Facilities Engineering Command Drawing
Underground Non-Residential Storage Tanks Sheet 1 of 3, Scale - 1=600'

FIGURE 1
RECORDED TANK LOCATIONS

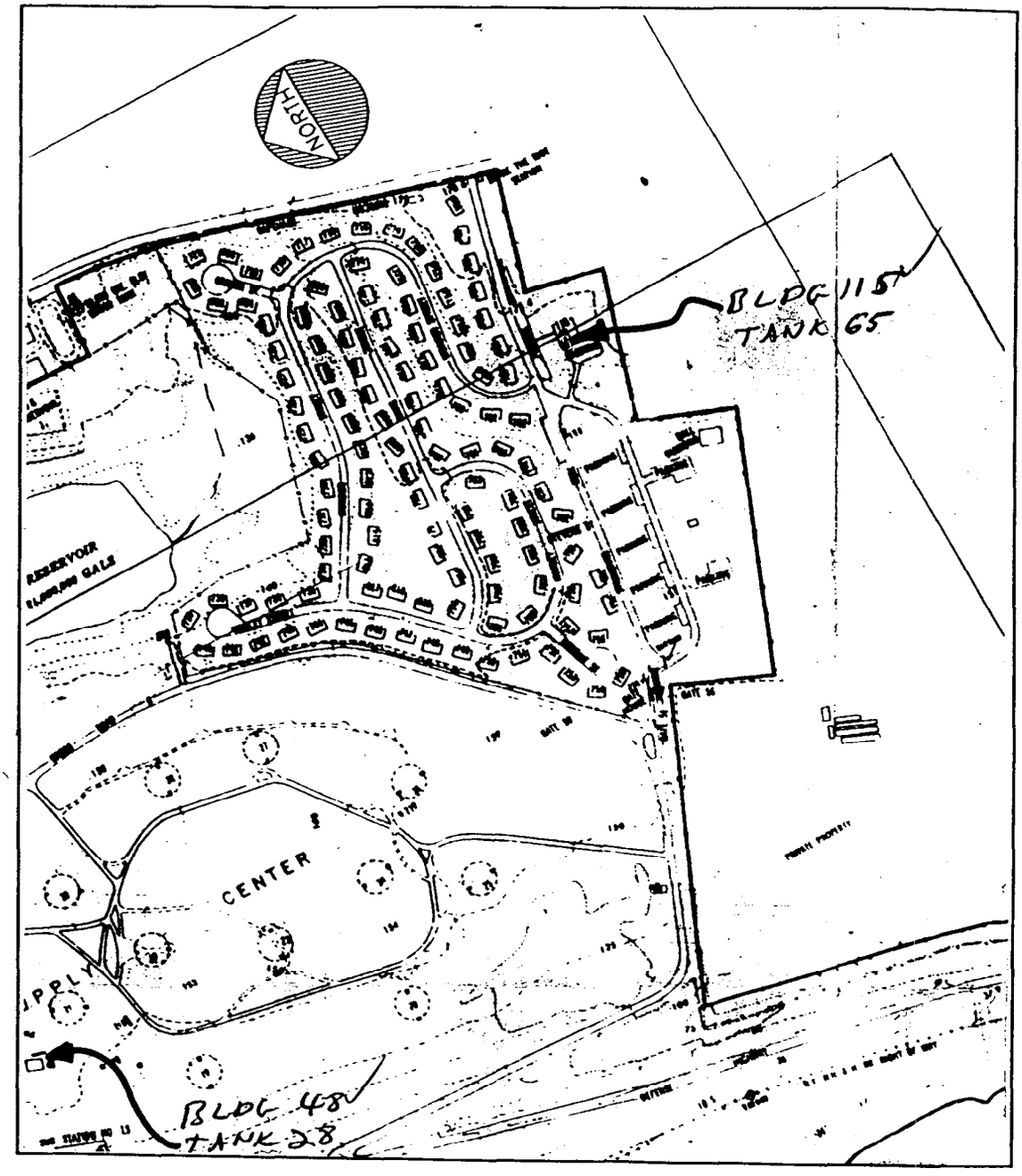
NETC - Coddington Point
Newport, Rhode Island



Ref: Naval Facilities Engineering Command Drawing
Underground Non-Residential Storage Tanks Sheet 1 of 3, Scale - 1=600'

FIGURE 2
RECORDED TANK LOCATIONS

NETC - Coddington Point
Newport, Rhode Island



Ref: Naval Facilities Engineering Command Drawing
Underground Non-Residential Storage Tanks Sheet 1 of 3, Scale - 1=600'

ERA

FIGURE 3
RECORDED TANK LOCATIONS

NETC - Melville
Portsmouth, Rhode Island

SITE	VISUAL INSPECT.	MAG.	BORING	TEST PIT	SOIL SAMPLES	HNu	TANK GRAVE	RECORD DRAWINGS	FURTHER INVESTIGATIO	RECOMMENDATION
Bldg. 402 - Coodington Pt. DEM Fac. 196 - Existing tank Navy Closed 1987; Naval Exchange Bldg. razed - Flowing construction of new Navy Exchange to west	No tank or fill	ND	Yes	Yes (3)	Boring (S-2): TPH - 1290 VOC's - ND Test Pit: TPH - 3280 VOC -ND	B-402, S-2: 13 ppm	Yes	No	Yes	Submit for Closure: Remove contaminated soil. Set up groundwater monitoring wells.
Bldg. 404 - Coodington Pt. Dem Fac. 203 - Existing 2,000 gallon No. 2 fuel Navy Closed 1987	New tank area was excavated below old tank	Inclusive too much piping	Yes	No	Boring (S-2): TPH - 161 VOC - ND	B-404, S-2 2 ppm	Area excavated for new Construct.	Yes New building	No	Submit for Closure: No further action.
Bldg. 340 - Coodington Pt. Dem Fac. 198 - Existing (replaced) 500 No. 2 fuel Navy replaced tank 1990	New tank at site - fills and vent visible	Yes	Yes	No	Boring (S-2): TPH - 518 VOC - ND	B-340, S-2 20 ppm	Yes New tank in place.	No	Yes	Submit for Closure of old tank. Register new tank. Install ground-water monitoring wells.
Bldg. 1121 - Coodington Pt. Dem Fac 1511 - Abandoned 1,000 No. 2 fuel Navy removed 1972	No tank or fills/vent	ND	Yes	No	Boring (S-2): TPH - 155 VOC - ND	ND	Yes	Yes Bldg. Layout	No	Submit for Closure: No further action.
Bldg. 304 Dem Fac. 1514 - Abandoned 1,000 No. 2 fuel Navy closed 1974	No tank or fills	ND	No	Yes	Test Pit: TPH - 567 VOC - ND		Yes	No	No	Submit for Closure: No further action.
Bldg. 302 Dem fac. 1513 - Abandoned 3,000 No. 2 fuel Navy Removed 1980	No fills or vents	Inclusive	No	Yes	Test Pit: TPH - 145 VOC - ND		Yes	No	No	Submit for Closure: No further action.
Bldg. 1920 Dem fac. 1512 - Abandoned 1,000 No. 2 fuel Navy removed 1987	No fills or vents	Inclusive	Yes	Yes	Boring (S-1): TPH - 503 VOC - ND Test Pit: TPH - 126 VOC - ND	ND	Yes	Yes	No	Submit for Closure: No further action.
Bldg. 115 Dem fac. 1510 - Abandoned 1,000 Gal. No. 2 fuel Navy removed 1987	No fills or vents	ND	Yes	Yes	Boring (S-3): TPH - 241 VOC - ND Test Pit: TPH - 140 VOC - 2.0 Tol	B-115, S-2 1 ppm	Yes	Yes	No	Submit for Closure: No further action.
Bldg. 44 Dem fac. 211 - Abandoned (2) 5,000 gal. No. 2, alcohol Navy removed 1989	No fills or vents	NA	--	Yes	NA	NA	Yes	Yes	No	Submit for Closure: No further action.
Bldg. 44 Dem fac. 211 (5) 20,000 - 3/diesel, 2/No. 2 fuel Navy cleaned & closed in place 1989	Yes, 5 tanks present Filled dirt	NA	--	Yes	Inside: tank clean Outside: VOA - ND TPH -734 Floating layer	NA	Yes	Yes	Yes	Submit for Closure: Install ground-water monitoring wells.

UST CLOSURE ASSESSMENT

NETC BUILDING 44
GOULD ISLAND
PORTSMOUTH, RHODE ISLAND
FACILITY ID# 211

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: NETC - UST Closures, Building 44
Project No. 94137

September 15, 1994

Site: Building 44
Gould Island
Portsmouth, Rhode Island

RIDEM Facility ID#: 211

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of underground storage tanks (USTs) at the above referenced location. The purpose of the study was to confirm the status of seven underground storage tanks, two of which NETC records indicate were excavated and removed, the remainder closed in-place by emptying, steam cleaning the inside of the vessels, and filling with inert material. The USTs are identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject USTs.

2. A site reconnaissance and test pit explorations were conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis.

3. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

The subject site is an abandoned Navy facility located on Gould Island. The island is located in the East Passage of Narragansett Bay, approximately 1.5 miles off the coast of Middletown. A site locus plan is presented as Figure 1. Building 44, which has been demolished was located on the northerly end of the property and served as the pump house for the subject tanks.

The subject UST area is located on the north side of Building 32, which is vacant and has been abandoned for some time. The surrounding area is paved except for directly over the subject UST are, which was covered with fill, and at the time of the site reconnaissance, thickly brushed. A site plan is presented as Figure 2.

The Navy torpedo testing range located on the north tip of the island is still active. The remainder of the island is not operational. There are no active utilities serving the subject portion of the island.

UST Description

The subject USTs consist of two 5,000 gallon steel tanks and five 20,000 gallon concrete tanks registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as tanks 34, 35, 36, 60, 61, 62 & 63. The 20,000 gallon USTs are constructed of steel reinforced concrete and are cast in-place vertically into the ground. The tanks measure 10 feet deep by 30 feet across (interior dimensions). The 5,000 gallon USTs were single wall, steel construction. The tank locations are indicated in Figure 2.

Background

The seven underground storage tanks were installed in the early 1940s to store fuel oils for the power generation plant at Gould Island. The in-ground tanks consisted of five 20,000 gallon, cast-in-place, concrete tanks 30 feet in diameter by 10 feet deep. Two additional 5,000 gallon, horizontal steel tanks were also located underground at the southern edge of the site. Three concrete tanks stored No. 5 fuel oil and two concrete tanks stored No.2 fuel oil. One steel tank stored No.2 oil and the other alcohol. Building 44, served as a pump house for the seven tanks and was located over the concrete in-ground tanks. Demolition plans were prepared by the NETC in 1986 and a contract was issued in 1989 to close the tanks. Removal of the two 5,000 gallon steel tanks and the pump house (Building 44) was completed. The five 20,000 gallon concrete tanks have been cleaned, tops caved-in and backfilled.

RIDEM records found in the NETC files indicate that a closure application for the subject USTs was made in 1989 and a closure plan approved in September 26, 1994. The RIDEM records do not indicate the monitoring wells were completed or that final closure of the tanks was granted. NETC records show that monitoring wells were to be installed by the contractor. One unserviceable monitoring well was found during a reconnaissance by ERA personnel of the Gould Island site. Copies of the file contents are provided in the Appendix.

Field Activities

To confirm the extent of the work completed at the site, ERA performed a series of test pits in the subject UST area. On July 11, 1994 test pits were placed into three of the tanks and in the area outside the tank walls. On August 12, 1994, additional test pits were

place within and on the outside the other two tanks. Test Pit locations are indicates in Figure 2. In all cases the tanks were found to contain fill material to the bottom of the tanks. The fill was saturated with water and no sheens or other evidence of petroleum product was noted. The field observations indicate that the tops of all the tanks had been opened and the insides pumped of product and cleaned. The tanks were then backfilled with fill and broken concrete rubble. Perched water was observed in all the tanks, suggesting that the bottoms are still intact.

Test pits performed outside the tank walls revealed significant free floating product which appeared to be weathered black oil, most likely a mixture of heavy No.5 and No.2 fuel previously stored at the site. Samples were collected for laboratory analysis. The excavation was advanced to below the bottom of the tanks and showed similar oil contamination.

Soils

Soils found at the site and throughout Gould Island are classified as Newport Series by the Soil Survey of Rhode Island. These soils are formed in compact glacial till derived from dark sandstone, conglomerate, argillite, and phylite. Permeability is generally moderate at the surface and slow in the substratum.

The fill found inside the tanks consisted of sand and gravel, concrete and brick construction debris and steel rebar. Soils outside the tanks were noted to be a black, silty fine to medium sand with concrete and brick debris encountered in some areas. Evidence of oil contamination, including free product, was found in the soils surrounding the tanks.

Soil Screening

Soil samples were screened in the field for the presence of total volatile organics using an HNu Model 101 photoionization detector equipped with a 10.2 eV lamp. Screening was performed using a headspace analysis technique and screening soils in the backhoe bucket. No elevated readings were reported in soils taken from inside or outside the tanks.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site at Gould Island is classified as GA-NA (non-attainment). A GA-NA designation indicates the groundwater resources is suitable for private or public drinking water use without treatment; however, the groundwater quality does not meet standards established for the classification. It is RIDEM's goal to restore groundwater in GA-NA areas to drinking water standards.

Presently there are no active water supply wells in the vicinity of the site. Due to the presence of ledge and the small size of the island, groundwater is limited. Contamination was noted in the area of the tanks and may have been present for many years with little migration due to the dense soil conditions.

Laboratory Results

Samples of soil removed from the excavation outside the tank walls were submitted to Toxikon Laboratories, Inc. of Woburn, Massachusetts and tested for TPH and VOC. TPH was reported at 734 mg/kg. No volatile organic compounds were detected. Copies of the sample chain of custody form and the laboratory Certificate of Analysis are attached.

Conclusions

NETC records indicate that product from the tanks were removed, the two 5,000 gallon steel tanks were removed, and the five 20,000 gallon concrete vessels were cleaned and backfilled. ERA's field explorations confirm the above. Records also indicate that a UST closure plan was approved by RIDEM and that a closure application was made. No records of the installation or sampling of monitoring wells as required by the RIDEM was found and no serviceable monitoring wells were found at the site. Site conditions also indicate that oil contamination exists outside the tanks. Perched water was encountered in each of the tanks, suggesting the integrity of the tanks floors and remaining walls is tight. No evidence of residual contamination was noted inside any of the tanks.

Based on the information gathered from RIDEM files, NETC files, interviews and field explorations described above the following opinions is offered:

1. The two 5,000 gallon steel tanks were removed from the site in 1989.

2. The five 20,000 gallon concrete tanks remain in-place and have been cleaned, had the tops demolished and backfilled per the approved closure plan.

3. One of the three referenced groundwater monitoring wells required by the closure plan was found to be unserviceable. The remaining two wells could not be located and are presumed buried or destroyed. No documentation was found to indicate the wells had ever been sampled and analyzed.

4. Residual contamination consisting of a mixture of No.5 and No.2 fuels was found in test pits located outside and adjacent to the concrete tanks. In addition to oil contaminated soils, free product was also observed.

Recommendations

RI DEM should issue a Certificate of Closure to the NETC and correct Master List; however, Site Investigation Report (SIR), if required, for these tanks should be forwarded to the LUST Section for further action.

The presence of subsurface contamination in the vicinity of the tanks will need to be addressed. Groundwater impact and the extent of contamination is unknown at this juncture. RIDEM should be notified of existing site conditions. It is ERA's opinion that additional investigation is warranted to define the problem. The placement of the above mentioned groundwater wells will assist in defining the extent of impact. Additional well installation or test pitting may also be recommended.

Limitations

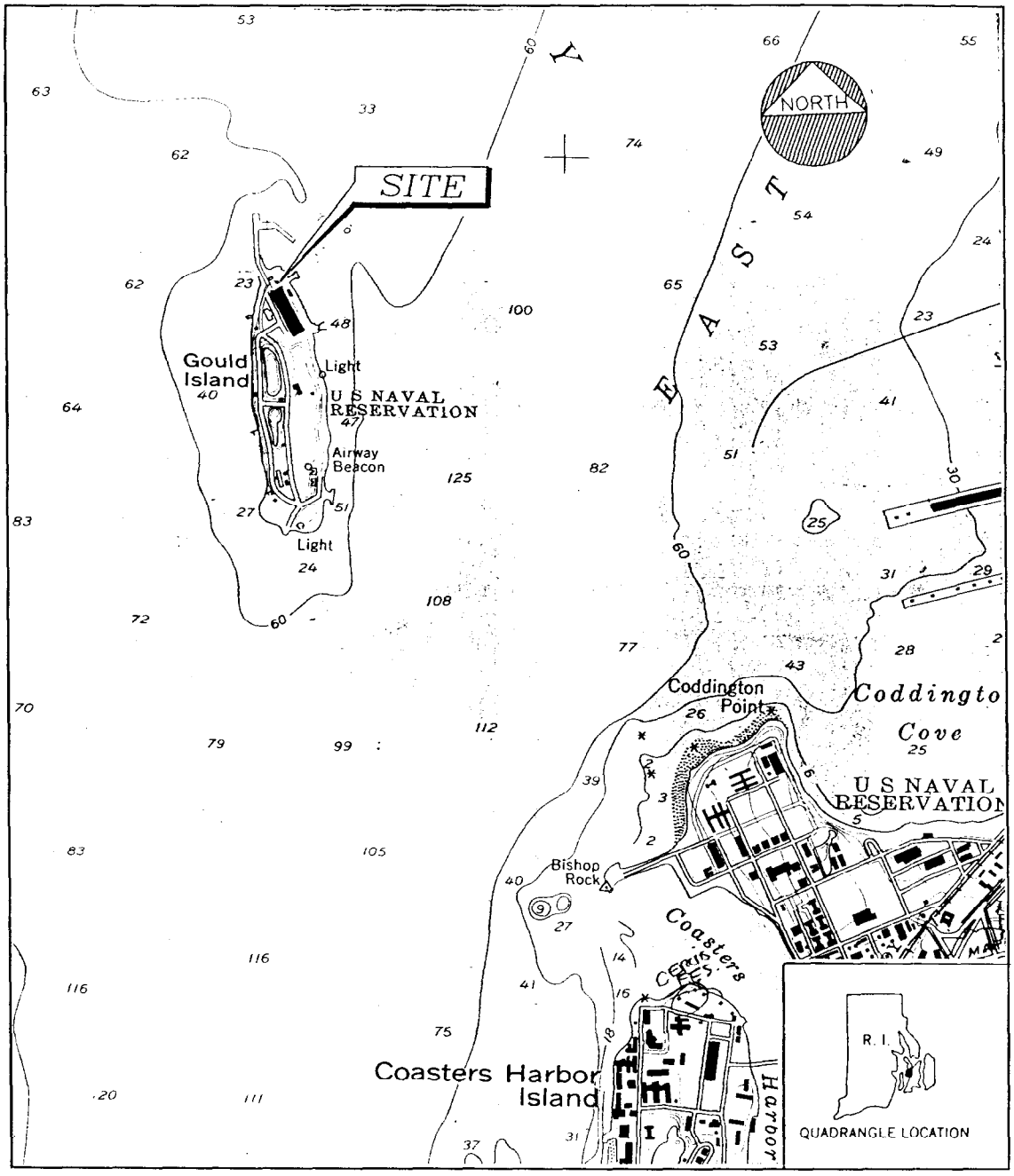
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

Test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

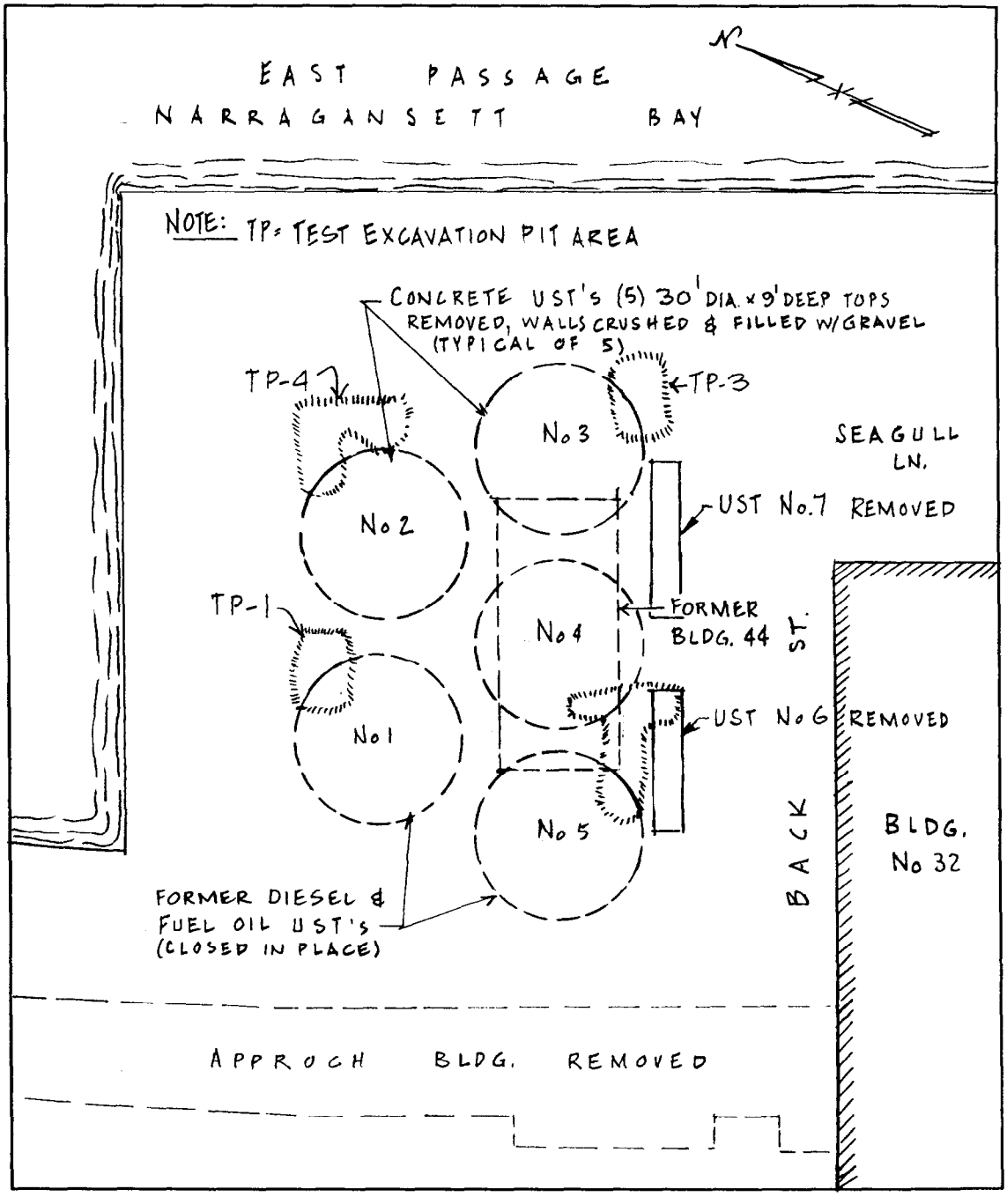
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERM

FIGURE 1
SITE LOCUS
Fac #211
USTs at Bldg 44, Gould Island
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #211
USTs at Bldg 44, Gould Island
NETC - Newport, R.I.

NETC Building 44 - Test Pit Location

NETC Building 44 - Free product observed in Test Pit - 3

NETC Building 44 - Examples of exposed tank wall and observed free floating product

OICC/ROICC
NEWPORT RI

SEP 5 11 19 AM '89

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
291 PROMENADE STREET
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

PERMANANT CLOSURE APPLICATION FOR UNDERGROUND STORAGE FACILITIES

INSTRUCTIONS

1. Section 15 of the Department of Environmental Management's Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials requires that this application be submitted to the above address at least ten (10) days prior to the closure of an underground storage tank, and that the Department be notified at least 72 hours in advance of the date and time of closure to permit inspection.

2. All applicable information must be provided to the Department in order for this application to be considered valid and for the Department to issue a certificate of closure. Action taken to close an underground storage tank without meeting the requirements of #1 (above) and the permanant closure procedures listed in the regulations, shall be considered in violation of the regulations and subject to fines and penalties referenced therein.

3. Any questions concerning this application or closure procedures should be directed to the Department at the address and phone number listed above.

4. To be in compliance with local requirements, the appropriate city or town offices (e.g. fire department) should be contacted.

A. Date of application: 8/31/89

B. Date of tank closure: upon approval

C. Approximate time of tank closure: to be determined

D. Underground Storage Facility Registration Number: _____
(if applicable)

E. Facility Name: Gould Island
Street Address: Naval Complex
City/Town: Newport RI 02841

F. Tank Owner's Name: U.S. Navy
Street Address: c/o Officer in Charge, NAVFAC Contracts
City/Town and State: Building One
Newport RI 02841-5063

TANK NO.	AGE	DATE LAST USED	VOLUME	CONSTRUCTION MATERIAL	STORED MATERIAL
1				Concrete	see attached test result
2				Concrete	"
3				concrete	"
4				concrete	"
5				Concrete	"
6				metal	"
7				metal	"
Pump house				metal	"
1 South				metal	"
2 South				metal	"
3 South				metal	empty

After the closures have been completed on the aforementioned tanks, will there be any underground storage tanks remaining in existance at this facility? X YES _____ NO

CLOSURE PROCEDURE (select one):

1._____ Precision test and fill with inert material (Section 15 (f) (2)).

NOTE: APPROVED PRECISION TEST MUST BE CONDUCTED AND RESULTS MUST BE SUBMITTED PRIOR TO FILLING

2. X Excavate, clean, and dispose (Section 15 (f) (1)) (Metal tanks)
X Break up tanks and fill with inert material (Concrete tanks)

a. Specify method of tank cleaning: Manually scrape and clean of all liquid and semi-solid material and remove by pump truck; Steam clean of all liquids and residual oil and pump out through oil/water separator and water quality treatment syst

b. Will tank be disposed of X or reused _____?

i. If disposed of, you MUST specify method of rendering tank unfit for future use: Tanks will be burned into 3' x 3' pieces.

Will this be done onsite _____ or offsite X ?

Where will the tank be disposed of (facility or location name and address) ?
Name Green Hill Recycling
Address 26 Green Hill Rd.
City/Town Johnston St RI Zip

ii. If the tank is to be reused, specify:
--purpose of use_____
--name and address of intended user_____
_____

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNED BY: William A. Reagan
TITLE: President
ADDRESS: 121 Green Lane, Middletown, RI 02842
TELEPHONE: 401-846-1173

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DIVISION OF AIR AND HAZARDOUS MATERIALS
291 Promenade Street
Providence, R. I. 02908-5767

SEPTEMBER 26, 1989

DEPARTMENT OF THE NAVY
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT, RI 02841-5000

Dear Mr. Belson:

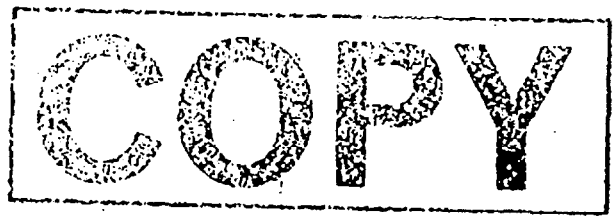
I have received and perused the Tank Closure Plan for Removal and Demolition of Underground tanks at Gould Island. I see no problems with the plan, as it pertains to the oil removal.

The RCRA (Resource Conservation and Recovery Act) office requests that you provide advance notice of oil transfer operations, so that a representative can be on site to monitor the transfer.

Should you need to communicate with this office you can contact me at (401) 277-2797 or the above address.

Sincerely,

THOMAS A. CAMPBELL
Division of Air and
Hazardous Materials



5090
Ser 736 / 424E

28 SEP 1989

Coastal Resource Management Council
Oliver Stedman Government Center
Attn: Mr. Ken Anderson
Tower Hill Road
Wakefield, RI 02879

Dear Mr. Anderson:

As requested during your telephone conversation with Rachel Marino on 27 Sep 89, we are forwarding additional information to supplement the information sent to you in our letter of 12 Sep 89 concerning the Naval Education and Training Center project to demolish Building No. 44 and remove underground storage tanks at Gould Island. A copy of the tank closure plan and sections from the contract plans and specifications are enclosed.

The tanks scheduled for removal include 5-40,000 gallon concrete tanks and 6-5,000 gallon steel tanks. The concrete tanks contain residual fuel oil, water and sludge in varying proportions. A tank closure plan has been approved by the State of Rhode Island Department of Environmental (RIDEM), Division of Air and Hazardous Materials, by enclosure (1). The tank closure plan consists of site plans, chemical analysis of the tank contents, a water treatment and discharge application and approval by RIDEM, a hazardous waste contingency plan and emergency procedures, and a hazardous waste site safety plan.

A description of the backfill materials grading operations can be found in the Contract specifications, Section C.9 on pages C-14 to 17. The Contract specifications, Section H.3 on pages H-1 to H-6, Environmental Protection, require the contractor to provide erosion control. As discussed, we have directed the Contractor to submit an erosion control plan. Upon our review of the plan, we shall forward it to you for your review.

The water from the tanks will be treated through a carbon filtration system, the effluent will be discharged to Narragansett Bay. Details of the water treatment system are given in the tank closure plan and are marked. The oil will be removed from the tanks using vacuum trucks loaded ointo a barge for transportation to shore. From shore, the oil will be pumped into oil trucks for final disposal. Once the oil and water have been removed from the tanks, any sludge remaining will be characterized prior to disposal.

The final disposition of the steel tanks will be to excavate, clean, remove and dispose at a selected site given in the Plan. The concrete tanks will be steam-cleaned, broken-up and filled with inert material. The resultant oily-water mixture from steam-cleaning will be pumped to the oil-water separator and water treatment system prior to discharge to Narragansett Bay. The material to be used to backfill the tanks will be obtained off-site.

In addition to the removal and demolition of the tanks, a small pumping chamber, Building 44, will be demolished. This building contains some asbestos which will be removed and disposed at a certified landfill.

Upon the Navy's review of the tank closure plan and supporting documentation, the Navy contends that this project is consistent with the State's Coastal Resource Management Plan.

File

If you have any questions, our point of contact is Rachel Marino at 841-3735.

Sincerely,

HAROLD B. BELSON
Director of Engineering
By direction of the Commander.

Enclosures:
(1) RI Department of Environmental Management
ltr of 26 Sep 89 and Tank Closure Plan
(2) Contract No. N62472-88-B-0803, Plans and Specifications,
Demolition of Building No.44 and Removal of Tanks at Building
Nos. and 44

NETC File Gould Is.

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY
Memorandum

DATE: 10/5/89
FROM: R. Moore, 4241
TO: FILE

SUBJ: UST REMOVAL GOULD ISLAND

REF (a) Phoncon Peter Sullivan, RIDEM Division of Water Resources with Rob Moore NETC, Engineering

1. By ref (a) the Tank Closure plan for Gould Island was approved by the underground storage tank division. Mr. Sullivan stated that as long as the division of Air and Hazardous Materials approved the plan and found no problem then he was satisfied also. The only condition Mr. Sulliva stated was that he wanted to be notified approximately one week in advance of the removal of the steel tanks so his people could view and take samples from the "undisturbed cradle".

2. Mr. Sullivan also approved and found no problems with ground water monitoring plan with ground water monitoring wells installed when the contractor mobilizes and begins work on emptying the tanks.

R. D. Moore

U.S. GPO: 1988 - 627-001/80097

Gould Island Tank Closure

1. Sludge disposal and timeframe for tank demolition
   - needs to be addressed soon after water & oil are removed,
   - any delay could result in groundwater infiltration and additional water removal

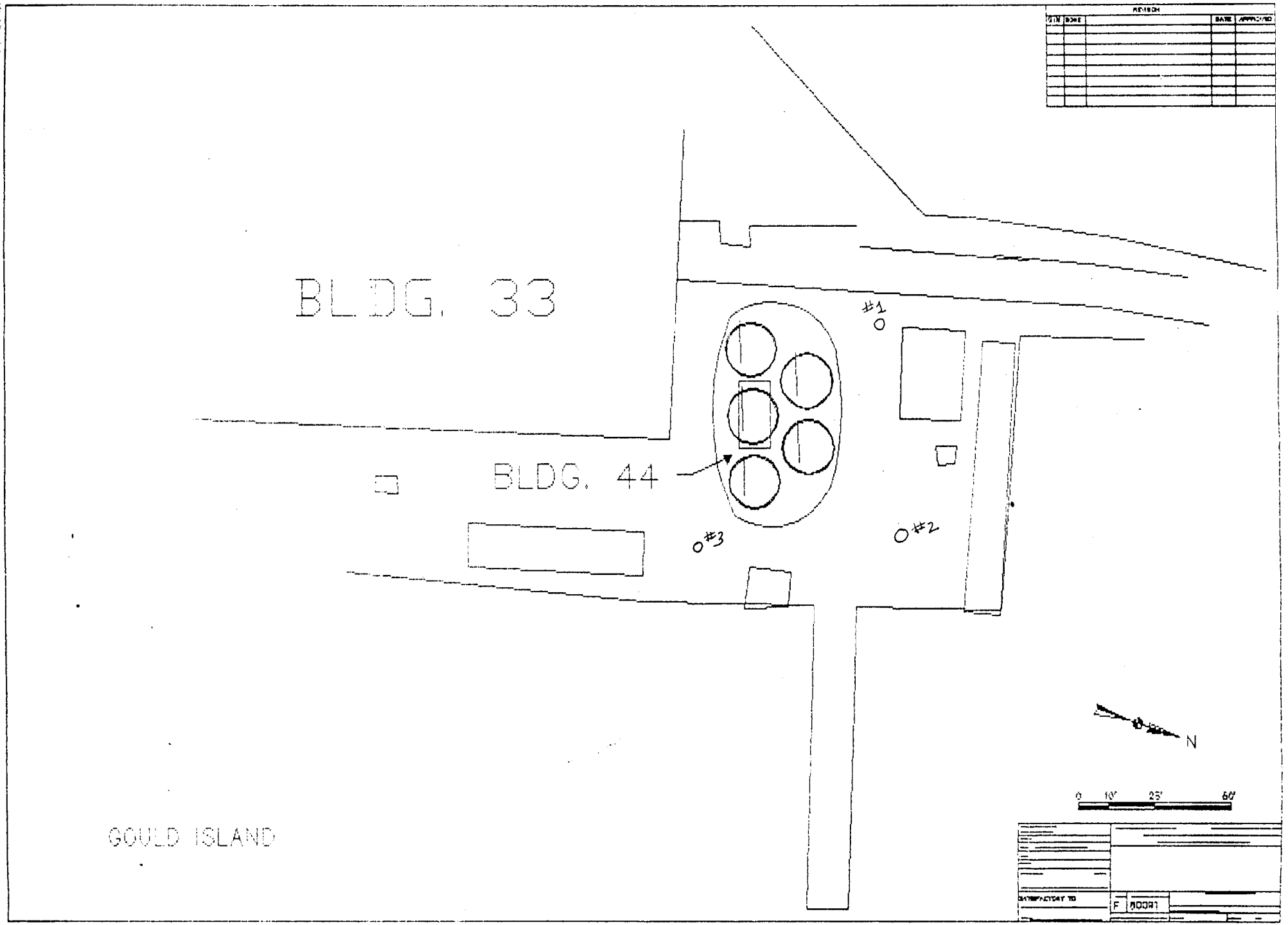
2. RIDEM application
   - any USTs remaining - yes, concrete tanks are to be demolished
   - need to fill in age, date, volume ?

3. Supporting documentation
   Encl (5) Qty tank contents and chemical analysis test results encl (6) do not correspond

4. Moving water from Bldg 23 to Bldg 44 -
   a transporter permit may be required ?

5. HW Contingency Plan
   p. 2 states "no HW treatment" - this is no longer the case
   Has HW emergency coordinator had any training
   HW Contingency Plan p. 21 states "EC has been trained in First Aid & CPR

.24 Notification of spill shall be reported to OIC first


BLDG. 33
BLDG. 44
#1
#2
#3
N
GOULD ISLAND

NETC File
Gould Is.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

COASTAL RESOURCES MANAGEMENT COUNCIL
Oliver H. Stedman Government Center
Tower Hill Road
Wakefield, R.I. 02879

October 11, 1989

Harold B. Belson, Director of Engineering
Department of the Navy
Naval Education and Training Center
Newport, RI 02841-5000

RE: CRMC File No. 89-10-22 -- Consistency Determination; Demolition of Building No. 44, Removal of underground fuel oil tanks and residual fuel ((5) - 40,000 gallon concrete tanks and (6) - 5,000 gallon steel tanks).

Dear Mr. Belson:

Based on CRMC staff review of the following documents:

1) Tank Closure Plan (DEM - Air and Hazardous Materials Division, dated 9/26/89);

2) Service Contract (USN Contract N62472-88-B-0803);

3) "Hazardous Waste Site Safety Plan for Gould Island" (O'Rourke Co./USN);

4) "Hazardous Waste Contingency Plan and Emergency Procedures for Gould Island" (USN);

5) "Order of Approval" (DEM - Water Resources Division, Dated 8/17/89);

the above cited project has been determined to be consistent with the Federally Approved Coastal Resources Management Program for the State of Rhode Island.

The Coastal Resources Management Council wishes to thank you for being given the opportunity to assess and review these plans. If you need additional information, please feel free to contact this office.

Sincerely,

Grover J. Fugate

Grover J. Fugate, Executive Director
Coastal Resources Management Council

KWA/lam

cc: K. Anderson (CRMC)
D. Reis(CRMC)
R. Marino (USN)

Received: 07/15/94 07/20/94 17:01:11

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 13
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 7/4/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 B404/S-2
02 B404/S-2
03 B402/S-2
04 B402/S-2
05 B340/S-2
06 B340/S-2
07 B115/S-3
08 B115/S-3
09 B1112/S-2
10 B1112/S-2
11 B1920/COMP
12 B1920/COMP
13 B44/1A-2

TEST CODES and NAMES used on this workorder

8240 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

Received: 07/15/94 Results by Sample

SAMPLE ID B44/1A-2 SAMPLE # 13 FRACTIONS: A
Date & Time Collected 07/04/94 Category SOIL

TPH_IR 734
mg/Kg DL=40.0

Received: 07/15/94 Results by Sample

SAMPLE ID B44/1A-2 FRACTION 13A TEST CODE 8240 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 07/04/94 Category SOIL

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	trans-1,3-Dichloropropene	ND	2.0
Acrylonitride	ND	10	Trichloroethene	ND	2.0
Chloromethane	ND	2.0	Dibromochloromethane	ND	2.0
Bromomethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Vinyl Chloride	ND	10	Benzene	ND	2.0
Chloroethane	ND	2.0	cis-1,3-Dichloropropene	ND	2.0
Methylene Chloride	ND	10	2-Chloroethylvinylether	ND	2.0
Acetone	ND	50	Bromoform	ND	2.0
Carbon Disulfide	ND	2.0	2-Hexanone	ND	4.0
1,1-Dichloroethene	ND	2.0	4-Methyl-2-pentanone	ND	4.0
Trichlorofluoromethane	ND	2.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Total 1,2-Dichloroethene	ND	2.0	Toluene	ND	2.0
Chloroform	ND	2.0	Chlorobenzene	ND	2.0
1,2-Dichloroethane	ND	2.0	Ethyl Benzene	ND	2.0
2-Butanone	ND	10	Styrene	ND	2.0
1,1,1-Trichloroethane	ND	2.0	Total Xylenes	ND	2.0
Carbon Tetrachloride	ND	2.0	1,2-Dichlorobenzene	ND	2.0
Vinyl Acetate	ND	2.0	1,3-Dichlorobenzene	ND	2.0
Bromodichloromethane	ND	2.0	1,4-Dichlorobenzene	ND	2.0
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 07/19/94
ANALYST: XL
INSTRUMENT: HP-V2
DIL. FACTOR: 1
COMMENTS:
UNITS: ug/kg

ND = not detected at detection limit

TEST CODE 8240 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8240: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

This method has been modified by the use of a capillary column.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

toxikon

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: 94-07-2002

DUE DATE : 7-27-94

COMPANY: ERA ENGINEERING
ADDRESS : 144 BIGNALL STREET WARWICK, RI 02888

PHONE # : 401 781-7422 FAX #: 401 781-1605
P.O. # :
CLIENT CONTACT : MIKE CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. TISSUE	
OTHER	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: TPH	ANALYSES: VOC 8240	COMMENTS
1	B404/S-2	2	8oz	G	1	7/4		N/A	X		
2	"	"	4	G	1	"				X	
3	B402/S-2	"	8	"	1	"			X		
4	"		4	"	1	"				X	
5	B340/S-2	"	8	"	1	"			X		
6	"	"	4	"	1	"				X	
7	B115/S-3	"	8	"	1	"			X		
8	"	"	4	"	1	"				X	
9	B112/S-2	"	8	"	1	"			X		
10	"	"	4	"	1	"				X	
11	B1520/comp	"	8	"	4	"			X		
12	"	"	4	"	1	"				X	
13	B44/1A-2	"	8/4	"	1/1	"		"	X	X	

	DATE	TIME		DATE	TIME
RELINQUISHED BY: Thomas McCarthy	7-15-94	- -	RECEIVED BY: M. Davis	7-15-94	5-00-PM
RELINQUISHED BY: M. Davis	7-11-94	17-00 PM	RECEIVED BY: D. Thompson	07/15/94	1100 -
RELINQUISHED BY:	- -	- -	RECEIVED FOR LAB BY:	- -	- -

METHOD OF SHIPMENT:

SPECIAL INSTRUCTIONS:

☐ RUSH, ... DAY TURN AROUND
☐ ROUTINE

RAPID RESPONSE

UST CLOSURE ASSESSMENT

NETC BUILDING 115
MELVILLE
PORTSMOUTH, RHODE ISLAND
FACILITY ID# 15010

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 115 September 15, 1994
Project No. 94137

Site: **Building 115**
Melville
Portsmouth, Rhode Island

RIDEM Facility ID#: 15010

Introduction

Environmental Resource Associates, Inc. (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of an underground storage tanks (UST) located at the above referenced location. The purpose of the study was to confirm the status of the subejct UST which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface explorations were conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis and field screening for volatile organics.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 115 is a single story, wooden "U" shaped structure located on the south side of Stringham Avenue in the Melville section of Portsmouth. A site locus plan is presented as Figure 1. The building is currently vacant. The subject UST area is located adjacent to the boiler room on the westerly side of the boiler room and is identified in the site plan presented as Figure 2. Utilities serving the area include public water and municipal sewers.

USGS topographic mapping shows the site set at an elevation of 160 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955. photorevised 1970 and 1975). Site

topography gently slopes downward in a generally northerly direction and is level with street grade. The surrounding area is residentially developed.

There are no wetland areas in the immediate vicinity of the UST location. The nearest surface water body is a freshwater reservoir located about 1,200 feet north of the site.

UST Description

The subject UST is described as a 1,000 gallon, single walled, steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 65. The tank formerly held No.2 fuel oil for the building heating system. Per NETC records and drawings, the UST was located adjacent to the boiler room. RIDEM records indicate the tank was installed in 1945 and last used in 1974.

An NETC record drawing titled "Naval Base Newport, RI Underground Non-residential Storage Tanks (Sheet 1 of 3)", dated 1/21/70, places the location of the former UST at the westerly side of Building 115.

Background

Building 115 is a wood frame structure located in the Melville section of the Naval Base. The building, which formerly served as a recreational center for base personnel, has been abandoned since about 1974. Navy records indicate the subject UST was excavated and removed from the site in 1987.

RIDEM UST records for the facility contained a Certificate of Extension for Temporary Closure, dated 2/6/86 for the UST. The certificate indicates the tank was still present at the time of inspection by RIDEM personnel and contained 17 inches of product. A notation on the certificate stated that the extension would be valid only upon receipt of confirmation of product removal. A checklist for the Certificate of Extension of Temporary Closure, also dated 2/6/86, identifies the UST as last used around 1974. No other information was available. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resource designated as unsuitable for private or public

drinking water use without treatment. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a westerly direction towards the Narragansett Bay East Passage. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as Newport - Urban land complex. This complex consists of well drained Newport and areas of Urban land. The complex is on drumlins and glacial till plains of densely populated areas. Urban land consists of areas that are covered by streets, parking lots, buildings and other urban structures. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed in the vicinity of the former UST location included a site reconnaissance, metal detector survey, test pit exploration and test borings. Locations are keyed to Figure 2. A summary of the findings is presented below.

Site Reconnaissance and Metal Detector Survey

On July 13, 1994, ERA personnel performed a site reconnaissance and magnetometer survey of the former UST location. No fills, vent lines or other evidence of an existing UST was observed in the former UST location. No anomalous readings were recorded with the metal detector.

Test Borings

On July 14, 1994, test boring exploration was performed using a truck mounted auger under the direction of an ERA field engineer. A single boring was advanced in the vicinity of tank grave to a depth of 10.7 feet. Soil samples were recovered at five foot intervals and

inspected for physical characteristics as well as evidence of subsurface contamination. The samples were screened in the field for the presence of volatile organic compounds (VOCs).

Test borings indicate the soils in the vicinity of the former tank to be a brown fine to medium sand and gravel, with some silt. Refusal was encountered at a depth of ten feet seven inches below grade. Sample S-3 (taken at a depth of 10 feet) exhibited a slight petroleum odor. No visible staining was noted. Groundwater was not encountered in the borehole. A copy of the boring log is presented in the Appendix.

Test Pits

On August 11, 1994, two test pits were excavated to a depth of nine feet in the area of the tank grave. The soils were inspected for visual signs of filling to confirm the tank grave. Soil conditions were also inspected for physical signs of contamination. Site photographs are attached at the end of the Figures Section.

Test pit activities revealed soils consisting of sand, gravel and silt. Groundwater was not encountered. No evidence of an existing underground storage tank or associated piping was found. Soil samples taken from the bottom of the excavation at a depth of 9 feet did not exhibit visual signs of contamination. One of the bottom samples was sent for laboratory analysis.

Soil Screening

Soil samples collected during boring operations were screened in the field for the presence of volatile organics with an HNu Model PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations.

Soil samples collected during test pitting were not screened due to instrument failure in the field. The HNu screening results for the boring samples are presented in the following table.

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Soil samples collected during test pitting were not screened due to instrument failure in the field. The HNu screening results for the boring samples are presented in the table below.

TOTAL VOLATILE ORGANIC COMPOUND FIELD SCREENING RESULTS *NETC Building 115, Melville, Portsmouth, RI*		
Sample ID No.	Depth (feet)	HNu Reading (ppm)
S-1	0-2'	ND
S-2	5-7'	ND
S-3	10-10' 7"	20

ND - not detected

Soil sample S-3, which had been noted to exhibit a petroleum odor in the field also registered a slightly elevated HNu reading. The S-3 sample was submitted for laboratory for analysis.

Laboratory Analysis

The soil samples collected from boring and test pit operations were submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Methods 8240, 8010 and 8020. A summary of the results is presented in the table below.

LABORATORY RESULTS *NETC Building 115, Melville, Portsmouth, RI*		
Sample ID	TPH-IR (mg/kg)	VOCs
B-115, S-3	241	ND
TP-115	140	2.0 µg/kg Toluene

ND - Not detected at laboratory detection limit

Toluene was reported in the test pit sample at the laboratory detection limit of 2.0 µg/kg. The compound was not detected in the boring sample, which had registered an HNu

reading of 20 ppm. The laboratory result is not considered significant. No other VOCs were reported by the laboratory.

The petroleum hydrocarbon concentrations in both samples are considered low and not indicative of significant environmental impact from past UST leakage. The levels are attributed to interference from the fill material or minor surface spillage during tank filling procedures. The laboratory detection limits are 2.0 mg/kg for VOCs and 40 mg/kg for TPH. Copies of the sample chain of custody form and the laboratory Certificates of Analysis are attached.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject underground storage tank was removed by the Navy in 1987, as indicated in NETC records. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

Subsurface soil explorations, including test boring and test pitting were performed in the former UST grave. Soil samples were screened for volatile organics with an HNu PID, and analyzed for the presence of VOCs and total petroleum hydrocarbons by a laboratory. No evidence was found to suggest significant subsurface soil or groundwater impact as a result of leakage or a past release from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

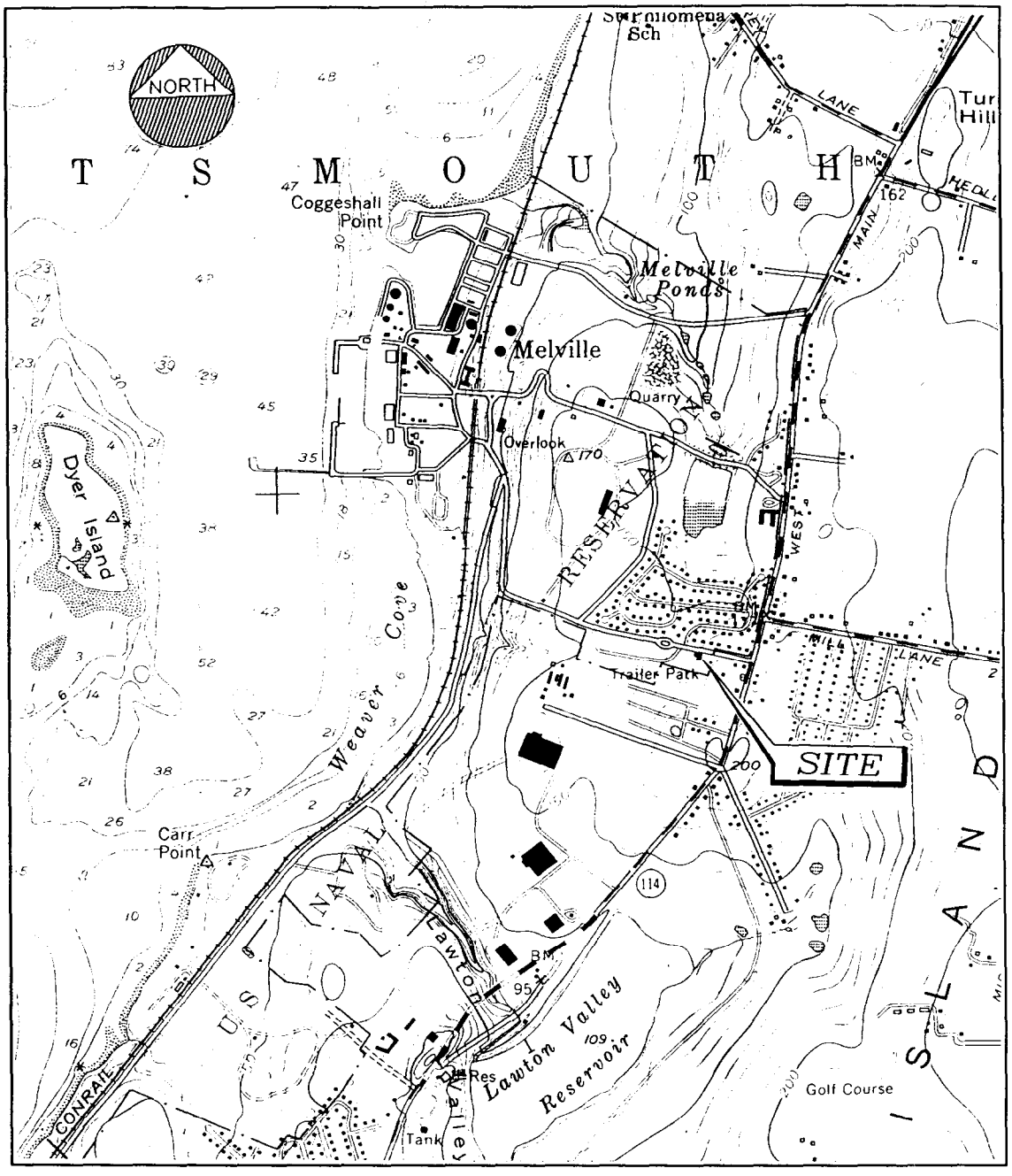
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

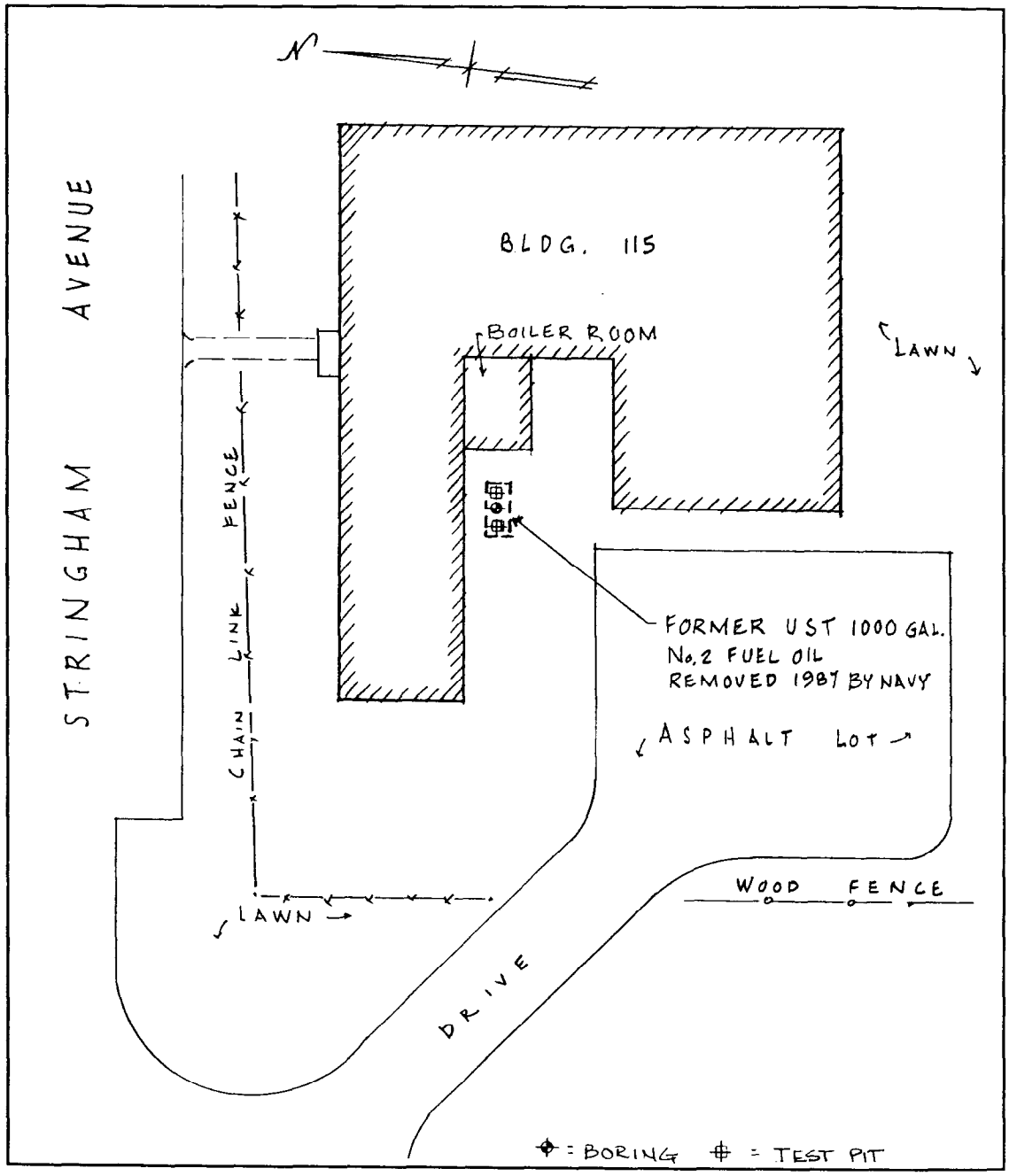
Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

FIGURE 1
SITE LOCUS
Fac #1510
UST at Bldg 115, Mellville
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #1510
USTs at Bldg 115, Mellville
NETC - Newport, R.I.

NETC Building 115 - Test Pit Excavation

BLD 115
MELVILLE

to add info to file #211 letter from Sarah

DEPARTMENT OF ENVIRONM
DIVISION OF WATE
83 Park St
Providence, Rhode
(401) 27

3/19
App: OK
Map: OK
15010
Jm

NO. 150101

CERTIFICATE OF EXTENSION OF TEMPORARY
FOR UNDERGROUND STORAGE FACILITIES

In compliance with Chapter 46-12 of the Rhode Island General Laws, as amended, and the Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials,

N.E.T.C., Newport

owner/operator of an underground storage facility located at

Melville Bldg. 115 Portsmouth

is issued this Certificate of Extension of Temporary Closure indicating that the storage tanks described below have been temporarily taken out of service, in compliance with the Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials.

Remarks: 1 TANK #1, #2 Tnl O.K

Tank contains product. Conditions of this extension Are therefore predicated on the receipt of paperwork Attesting to the fact that tanks have been pumped clean. Pumped product should be handled According to Applicable regulations

Signed this 6th day of February, 19 86

Your extension expires on the 6th day of August, 19 86

Reviewed by: Sarah H. Cunningham

Approved: For James Foster by Laura Schmidt
Chief, Division of Water Resources
Department of Environmental Management
Providence, Rhode Island 02903

MDR/dmb

EXTENSION OF TEMPORARY CLOSURE CHECKLIST

DATE: FEBRUARY 6, 1996

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER

ADDRESS: BUILDING 115, MELVILLE, NEWPORT, RI Portsmouth

REGISTRATION NO.: 15,010-T

TANK OWNER/OPERATOR: NAVAL EDUCATION & TRAINING CENTER

	TANK# 65	TANK#	TANK#	TANK#

TANK STATUS

1.	Tank Age:	43			
2.	Estimated Date Tank Last Used:	~1972			
3.	Estimated Capacity	4000			
4.	Material of Consturction	STEEL			

PRODUCT STATUS

1.	Is Tank Empty?	NO			
2.	Does Tank Have Product Inside? (in)	YES ( )	( )	( )	( )
3.	Product Stored or Last stored in Tank	#2 FUEL OIL			

CLOSURE STATUS

1.	Are Fill Lines, Gauge Openings and Pump Suction Lines Capped and Secure?	YES			
2.	Are Vent Lines Open?	YES			

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signed by: Michael Davenport

Title: Environmental Eng.

Telephone: (401) 841-3735

MDR/dmb

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

CLOSURE

REGISTRATION NUMBER: 15010

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER DATE: 31 JAN 85 15010

STREET ADDRESS: Bldg 115, Melville /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942 F

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /X/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
65	43	1,000	Steel	#2-Fuel-Oil (abandoned)	None

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) /X/ Other Burner
(See below)

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used unknown

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?

/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well

/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? 1

b) Classify the type of tank closure /__/ Temporary /__/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /x/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

GUILD DRILLING CO., INC.

100 WA. STREET EAST PROVIDENCE, R I

SHEET 1 OF 1
DATE
HOLE NO. B-115
LINE & STA.
OFFSET
SURF. ELEV.

TO E R A Engineering
ADDRESS Warwick, R.I.
PROJECT NAME Site Assessment @ Naval
LOCATION Portsmouth, R.I.
REPORT SENT TO above / Housing
PROJ. NO.
SAMPLES SENT TO Taken at Site
OUR JOB NO. 95-46

GROUND WATER OBSERVATIONS
At Dry after Hours
At after Hours

	CASING	SAMPLER	CORE BAR.
Type	H/S/A	S/S	
Size I.D.	4½"	1-3/8"	
Hammer Wt		140#	BIT
Hammer Fall		30"	

	Date	Time
START	7/14/94	a.m. p.m.
COMPLETE	7/14/94	a.m. p.m.
TOTAL HRS.		
BORING FOREMAN	P. Brescia	
INSPECTOR	Bill	
SOILS ENGR.		

LOCATION OF BORING:

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc	SAMPLE No	Pen	Rec
		0'-2'	A						6" Topsoil - Loam Brown fine to medium SAND & Gravel	1	24"	-
								5'				
		5'-6'6"	D	21	27	31			Gray fine to medium SAND & Gravel, some silt - Till	2	18"	14"
								10'7"				
		10'-10'7"	D	26	50/1"				Refusal - Bottom of Boring 10'7" Poss. Rock or Boulder	3	7"	5"

GROUND SURFACE TO 10' USED Auger "CASING: THEN S/S to 10'7"

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-10	Loose	0-4	Soft
10-30	Med. Dense	4-8	M/Stiff
30-50	Dense	8-15	Stiff
50+	Very Dense	15-30	V-Stiff
		30+	Hard

SUMMARY:
Earth Boring 10'7"
Rock Coring
Samples 3

HOLE NO. B-115

TOWN PRESS — EAST PROV.

 TOXIKON CORP. REPORT Work Order # 94-08-336

Received: 08/16/94 08/23/94 16:22:09

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 5
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 8/11/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 TP-402
02 TP-115
03 TP-1920
04 TP-304
05 TP-302

TEST CODES and NAMES used on this workorder

8010 PURGEABLE HALOCARBONS
8020 PURGEABLE AROMATICS
TPH IR TPH BY IR

SAMPLE ID TP-115 FRACTION 02A TEST CODE 8010 NAME PURGEABLE HALOCARBONS
Date & Time Collected 08/11/94 Category SOIL

PURGEABLE HALOCARBONS

	RESULT	LIMIT
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
Trans-1,3-Dichloropropane	ND	2.0
Trichloroethene	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Dibromochloromethane	ND	2.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
Chlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1

ND = not detected at detection limit

SAMPLE ID TP-115 FRACTION 02A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/11/94 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	2.0
TOLUENE	2.0	2.0
ETHYLBENZENE	ND	2.0
XYLENES (TOTAL)	ND	2.0

Notes and Definitions for this Report:

DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1
UNITS: ug/Kg
ND = not detected at detection limit

Received: 08/16/94 Results by Sample

SAMPLE ID TP-115 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 08/11/94 Category SOIL

TPH_IR	140
mg/Kg DL=40.0	

TEST CODE 8010 NAME PURGEABLE HALOCARBONS

EPA Method: 8010. Halogenated Volatile Organics.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE 8020 NAME PURGEABLE AROMATICS

EPA Method: 8020. Volatile Aromatic Compounds incl. MTBE.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE TPH_IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: [illegible]

DUE DATE : [illegible]

COMPANY: ERA ENGINEERING
ADDRESS: 144 BIGNALL ST.
WARWICK, RI 02888
PHONE #: (401) 781-7422 FAX #: (401) 761-1605
P.O. #:
PROJECT MANAGER: Mike CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE: 1. WASTEWATER 2. SOIL 3. SLUDGE 4. OIL 5. DRINKING WATER 6. WATER (GW/MW/SW) 7. OTHER (SPECIFY

CONTAINER TYPE: P - PLASTIC G - GLASS V - VOA

ANALYSES: T24 - IC; VOC (8010/8020)

RAPID RES 9020

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	T24 - IC	VOC	COMMENTS
1	TP-402	soil	8oz	6	1	8/11		None	X	X	
2	TP-115	"	"	6	1	"		"	X	X	
3	TP-1920	"	"	6	1	"		"	X	X	
4	TP-304	"	"	6	1	"		"	X	X	
5	TP-302	"	"	6	1	"		"	X	X	

SAMPLED BY: William M. Anderson — DATE: 8-11-97 TIME: - -
RECEIVED BY: [illegible] — DATE: [illegible] TIME: [illegible]

RELINQUISHED BY: [illegible] — DATE: 8-16-97 TIME: 17:00
RECEIVED BY: [illegible] — DATE: [illegible] TIME: [illegible]

RELINQUISHED BY: — DATE: - - TIME: - -
RECEIVED FOR LAB BY: — DATE: - - TIME: - -

METHOD OF SHIPMENT

COOLER TEMPERATURE

SPECIAL INSTRUCTIONS:

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known ________

 TOXIKON CORP. REPORT Work Order # 94-07-262

Received: 07/15/94 07/20/94 17:01:11

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 13
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 7/4/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 B404/S-2
02 B404/S-2
03 B402/S-2
04 B402/S-2
05 B340/S-2
06 B340/S-2
07 B115/S-3
08 B115/S-3
09 B1112/S-2
10 B1112/S-2
11 B1920/COMP
12 B1920/COMP
13 B44/1A-2

TEST CODES and NAMES used on this workorder

8240 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

SAMPLE ID B115/S-3 SAMPLE # 07 FRACTIONS: A
Date & Time Collected 07/04/94 Category SOIL

TPH_IR 241
mg/Kg DL=40.0

SAMPLE ID B115/S-3 FRACTION 08A TEST CODE 8240 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 07/04/94 Category SOIL

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	trans-1,3-Dichloropropene	ND	2.0
Acrylonitride	ND	10	Trichloroethene	ND	2.0
Chloromethane	ND	2.0	Dibromochloromethane	ND	2.0
Bromomethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Vinyl Chloride	ND	10	Benzene	ND	2.0
Chloroethane	ND	2.0	cis-1,3-Dichloropropene	ND	2.0
Methylene Chloride	ND	10	2-Chloroethylvinylether	ND	2.0
Acetone	ND	50	Bromoform	ND	2.0
Carbon Disulfide	ND	2.0	2-Hexanone	ND	4.0
1,1-Dichloroethene	ND	2.0	4-Methyl-2-pentanone	ND	4.0
Trichlorofluoromethane	ND	2.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Total 1,2-Dichloroethene	ND	2.0	Toluene	ND	2.0
Chloroform	ND	2.0	Chlorobenzene	ND	2.0
1,2-Dichloroethane	ND	2.0	Ethyl Benzene	ND	2.0
2-Butanone	ND	10	Styrene	ND	2.0
1,1,1-Trichloroethane	ND	2.0	Total Xylenes	ND	2.0
Carbon Tetrachloride	ND	2.0	1,2-Dichlorobenzene	ND	2.0
Vinyl Acetate	ND	2.0	1,3-Dichlorobenzene	ND	2.0
Bromodichloromethane	ND	2.0	1,4-Dichlorobenzene	ND	2.0
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 07/18/94
ANALYST: XL
INSTRUMENT: HP-V2
DIL. FACTOR: 1
COMMENTS:
UNITS: ug/kg

ND = not detected at detection limit

TEST CODE 8240 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8240: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

This method has been modified by the use of a capillary column.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: 94-07-0102

DUE DATE : 7-27-94

COMPANY: ERA ENGINEERING
ADDRESS : 144 BIGNALL STREET
WARWICK, RI 02888

PHONE # : 401 781-7422 FAX #: 401 781-1605
P.O. # :
CLIENT CONTACT : MIKE CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. TISSUE	
OTHER	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: TPH	ANALYSES: VOC BTEX	COMMENTS
1	B404/S-2	2	8oz	G	1	7/4		N.A.F.	X		
2	"	"	4	G	1	"				X	
3	B402/S-2	"	8	"	1	"			X		
4	"		4	"	1	"				X	
5	B340/S-2	"	8	"	1	"			X		
6	"	"	4	"	1	"				X	
7	B115/S-3	"	8	"	1	"			X		
8	"	"	4	"	1	"				X	
9	B112/S-2	"	8	"	1	"			X		
10	"	"	4	"	1	"				X	
11	B1520/comp	"	8	"	4	"			X		
12	"	"	4	"	1	"				X	
13	B44/1A-2	"	8/4	"	1/1	"		"	X	X	

RELINQUISHED BY: Transported T. Carlson	DATE: 7-15-94	RECEIVED BY: M. Davis	DATE: 7-15-94	SPECIAL INSTRUCTIONS:
	TIME: - -		TIME: 5-00-PM	
RELINQUISHED BY: M. Davis	DATE: 7-11-94	RECEIVED BY: D. Thompson	DATE: 07-19-94	☐ RUSH, ... DAY TURN AROUND
	TIME: 17-00-PM		TIME: 1100 -	☐ ROUTINE
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -	RAPID RESPONSE
	TIME: - -		TIME: - -	
METHOD OF SHIPMENT:				

UST CLOSURE ASSESSMENT

NETC BUILDING 302
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 15013

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 302
Project No. 94137

September 15, 1994

Site: **Building 302**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: 15013

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of a former underground storage tank (UST) located at the above referenced site. The purpose of the study was to confirm the status of the UST which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 302 is located on the east side of Meyerkord Avenue, approximately 300 feet south of the intersection with Rochaubeau Street in the Coddington Point section of the Newport Naval Base. A site locus plan is presented as Figure 1. The subject UST area is located off the southwest corner of the building, adjacent to the boiler room. A steam trench which serves the building heating system, is located in the immediate vicinity. Utilities serving the area include public water, municipal sewers, and central steam heat.

As indicated in Figure 2, Building 302 occupies most of the grounds. Except for a narrow grassed strip surrounding the building, the rest of the area is covered with pavement.

The subject UST is located under a grass mound which rises from near street level, about 7 feet to the building first floor elevation.

USGS topographic mapping shows the site set at an elevation of 20 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955. Photorevised 1970 and 1975). Local topography slopes downward radially in southerly and westerly directions. The building currently serves as a gymnasium for Navy personnel.

There are no wetland areas in the immediate vicinity of the UST location. The nearest surface water body is Coasters Harbor, located about 800 feet to the west.

UST Description

The subject UST is identified as a 3,000 gallon single wall steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 68. The tank formerly held No.2 fuel oil for Building 302 and was reportedly installed in 1945.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be near the southwesterly corner of Building 302.

Background

NETC records indicate that the UST was removed in 1980 when the Building 302 heating system was converted to central steam.

The RIDEM Underground Storage Tank Program file contained a UST Certificate of Registration, dated 1/31/85. The certificate identifies the tank as a 3,000 gallon steel, No. 2 fuel oil tank originally installed in 1942. The tank is identified as abandoned. No further information was available. A copy of the registration form is presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a westerly direction towards Coasters Harbor. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the site included a site walkover, magnetometer survey and test pit exploration. Findings are summarized below.

Site Walkover & Magnetometer Survey

On July 13, 1994, the area encompassing the UST was visually inspected for the presence of fills and/or vent lines. None were observed. The area was then scanned with a magnetometer for any anomalous readings. The readings within a 50 by 50 foot grid pattern were inconclusive due to numerous utilities in the immediate area.

Test Pit Exploration

On August 11, 1994, a test pit was excavated in the area of the subject tank grave to a depth of 9 feet. (See attached photographs at end of Figures Section.) The test pitting was performed to determine the presence of an existing UST or associated piping. Soil conditions were also inspected for visual signs of contamination. Soil samples were recovered for volatile organic screening and laboratory analysis.

Soils in the vicinity of the UST grave were found to be a brown fine to medium sand and gravel with some silt, typical of fill material. Decomposed rock was encountered at a depth of 8 feet. No evidence of subsurface environmental impact from tank leakage or a past release was noted in the excavation. No evidence of an existing UST or associated piping was found. Groundwater was not encountered at bottom of hole (9 feet).

Soil Screening

The soils excavated during test pitting were to be screened for the presence of volatile organic (VOCs) using a portable HNu PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp. However, due to instrument failure in the field screening of the sample was not possible.

Laboratory Results

The soil sample collected from test pit operations was submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Method 8010 and 8020. The laboratory results are presented below. Copies of the chain of custody form and the laboratory report are presented in the Appendix.

LABORATORY RESULTS
NETC Building 302, Coddington Point, Newport, RI

Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
TP-302	145	ND

ND - Not detected at the laboratory detection limit.

No detectable concentrations of VOCs were reported by the laboratory. Low levels of petroleum hydrocarbons were reported, however, the reported value is typical of fill material. Fill material was observed during test pit operations. Laboratory detection limit for VOCs is 1.0 mg/kg. The detection limit for TPH is 40 mg/kg.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 3,000 gallon underground storage tank was removed by the Navy in 1980, as indicated in NETC records, when Building 302 heating system was converted to central steam. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

No evidence was found to suggest subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

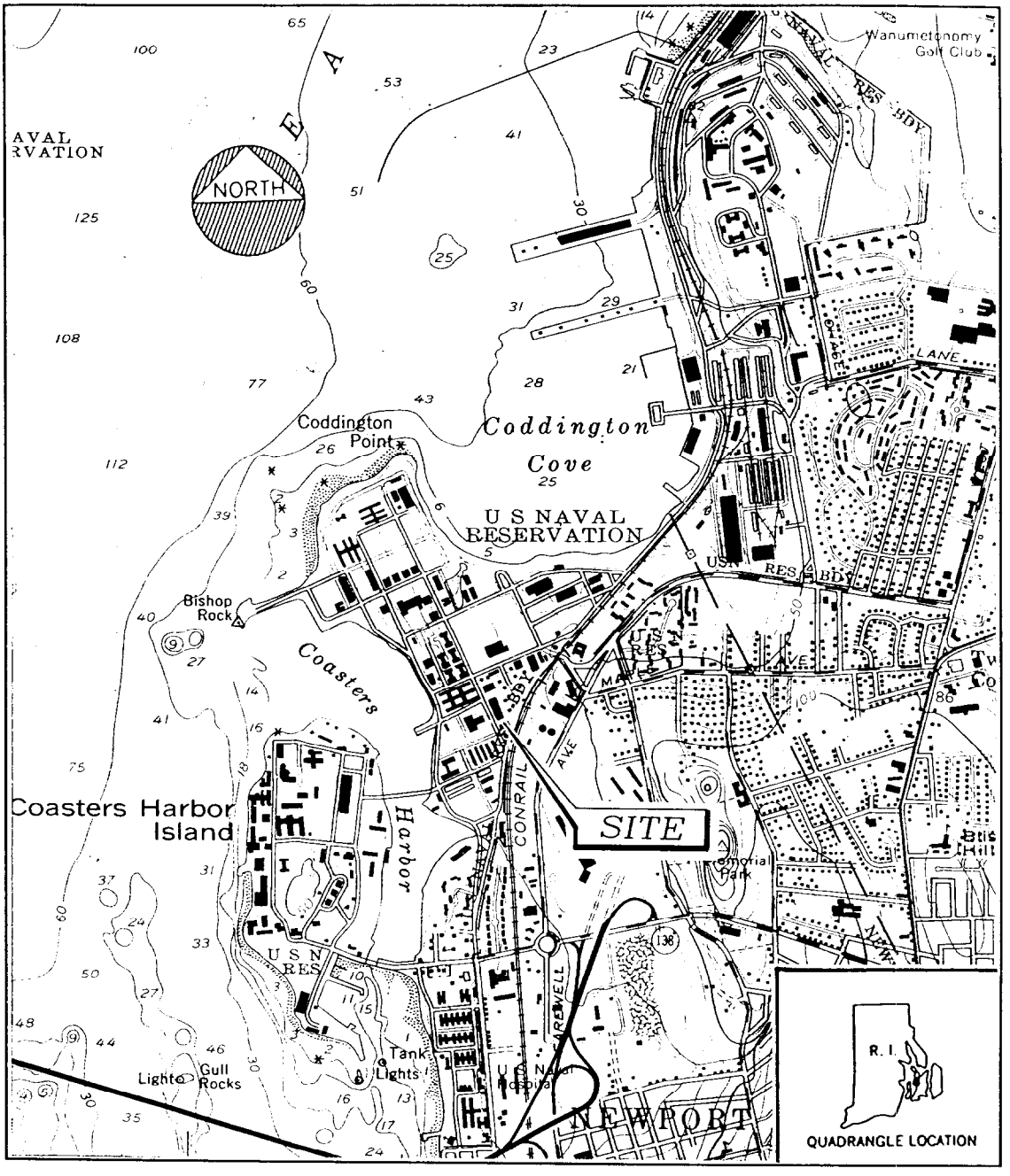
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

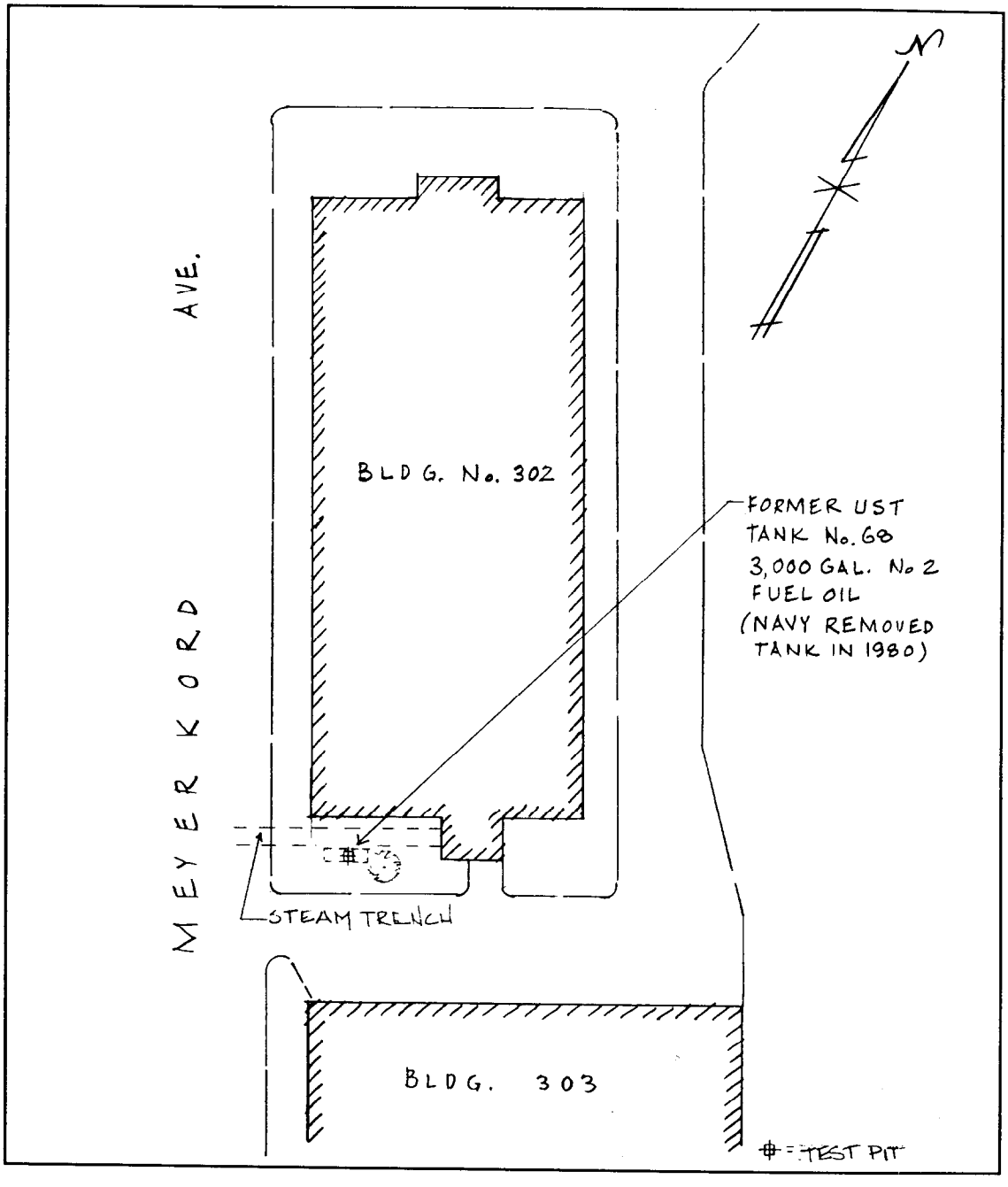
Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

FIGURE 1
SITE LOCUS
Fac #1513
UST at Bldg 302, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #1513
USTs at Bldg 302, Coddington Cove
NETC - Newport, R.I.

NETC Building 302 - Test Pit Excavation

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

RECEIVED
R.I. DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
MAR 15 1985
DIVISION OF WATER RESOURCES

3/19
PR App: OK
Map: OK
15013
JM

CES
09
02908

lities
tion -

BLD 302
CODD PT.
CLOSURE

REGISTRATION NUMBER: 15013

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER DATE: 31 JAN 85

STREET ADDRESS: Bldg 302, Codd. Point /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942 F

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /*/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
68	43 45 03	3,000	Steel 01	#2 ~~Fuel-Oil~~ 02 (abandoned)	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) (See below) /X/ Other Burner

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used unkn

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?
/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well
/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? 1

b) Classify the type of tank closure /__/ Temporary /X/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /X/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) [redacted] empty or abandoned tanks [redacted] /X/ ~~filled~~ or ☒ removed? X PER 11 APR 95

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

 TOXIKON CORP. REPORT Work Order # 94-08-336

Received: 08/16/94 08/23/94 16:22:09

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 5
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND, O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 8/11/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 TP-402
02 TP-115
03 TP-1920
04 TP-304
05 TP-302

TEST CODES and NAMES used on this workorder

8010 PURGEABLE HALOCARBONS
8020 PURGEABLE AROMATICS
TPH IR TPH BY IR

SAMPLE ID TP-302 SAMPLE # 05 FRACTIONS: A
Date & Time Collected 08/11/94 Category SOIL

TPH_IR	145
mg/Kg DL=40.0	

SAMPLE ID TP-302 FRACTION 05A TEST CODE 8010 NAME PURGEABLE HALOCARBONS
Date & Time Collected 08/11/94 Category SOIL

PURGEABLE HALOCARBONS

	RESULT	LIMIT
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
Trans-1,3-Dichloropropane	ND	2.0
Trichloroethene	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Dibromochloromethane	ND	2.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
Chlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1

ND = not detected at detection limit

Received: 08/16/94 Results by Sample

SAMPLE ID TP-302 FRACTION 05A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/11/94 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	2.0
TOLUENE	ND	2.0
ETHYLBENZENE	ND	2.0
XYLENES (TOTAL)	ND	2.0

Notes and Definitions for this Report:

DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1
UNITS: ug/Kg
ND = not detected at detection limit

TEST CODE 8010 NAME PURGEABLE HALOCARBONS

EPA Method: 8010. Halogenated Volatile Organics.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE 8020 NAME PURGEABLE AROMATICS

EPA Method: 8020. Volatile Aromatic Compounds incl. MTBE.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE TPH_IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

RAPID RESPONSE

WORK ORDER #: [illegible] - [illegible]

DUE DATE : [illegible] - [illegible] - [illegible]

COMPANY: ERA ENGINEERING
ADDRESS: 144 BIGNALL ST.
WARWICK, RI 02888
PHONE #: (401) 781-7422 FAX #: (401) 781-1605
P.O. #:
PROJECT MANAGER: Mike CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH-IR	VOC (8010/8020)	COMMENTS
1	TP-402	soil	8oz	G	1	8/11		None	X	X	
2	TP-115	"	"	G	1	"		"	X	X	
3	TP-1920	"	"	G	1	"		"	X	X	
4	TP-304	"	"	G	1	"		"	X	X	
5	TP-302	"	"	G	1	"		"	X	X	

SAMPLED BY: William M. Anderson	DATE: 8-11-97	RECEIVED BY: [illegible]	DATE: [illegible]	**SPECIAL INSTRUCTIONS:**
	TIME: - -		TIME: [illegible]	☐ RUSH ..... BUSINESS DAY TURN AROUND
RELINQUISHED BY: [illegible]	DATE: 8-[illegible]-97	RECEIVED BY: [illegible]	DATE: [illegible]	☐ ROUTINE
	TIME: 17:00 - PM		TIME: [illegible]	
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -	
	TIME: - -		TIME: - -	
METHOD OF SHIPMENT		COOLER TEMPERATURE		

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known ____________

UST CLOSURE ASSESSMENT

NETC BUILDING 304
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 15014

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 304 September 15, 1994
Project No. 94137

Site: **Building 304**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: 15014

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of a former underground storage tank (UST) located at the above referenced site. The purpose of the study was to confirm the status of the UST which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 304 is located on the east side of Meyerkord Avenue in the Coddington Point section of the Newport Naval Base. A site locus plan is presented as Figure 1. The subject UST area is located off the northwest corner of the building, adjacent to a former boiler room. Building 304 is a single story slab on grade wood structure. The building houses garage space for base personnel to perform automotive servicing. Utilities serving the area include public water, municipal sewers, and central steam heat.

As indicated in Figure 2, the subject UST grave is located in a narrow grassed strip between Building 304 and Meyerkord Avenue. A steam trench which serves the building heating system, waster line and a sewer line are located in the immediate vicinity.

USGS topographic mapping shows the site set at an elevation of about 30 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955, photorevised 1970 and 1975). Site topography is flat and level with street grade. Local topography slopes downward in a general westerly direction.

There are no wetland areas in the immediate vicinity of the UST location. The nearest surface water body is Coasters Harbor, located about 600 feet to the west.

UST Description

The subject UST is identified as a 1,000 gallon single wall steel vessel registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 69. The tank formerly held No.2 fuel oil for Building 304 and was reportedly installed in 1942.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be on the southwesterly side of Building 304.

Background

NETC records indicate that the UST was removed in 1974 when the Building 304 heating system was converted to central steam.

The RIDEM Underground Storage Tank Program file contained a UST Certificate of Registration, dated 1/31/85. The certificate identifies the tank as a 1,000 gallon steel, No. 2 fuel oil tank originally installed in 1942. The tank is identified as abandoned. No further information was available. A copy of the registration form is presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a westerly direction towards Coasters Harbor. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the site included a site walkover, magnetometer survey and test pit exploration. Findings are summarized below.

Site Walkover & Magnetometer Survey

On July 13, 1994, the area encompassing the UST was visually inspected for the presence of fills and/or vent lines. None were observed. The area was then scanned with a magnetometer for any anomalous readings. The readings were inconclusive due to numerous utilities in the immediate area.

Test Pit Exploration

On August 11, 1994, a test pit was excavated in the area of the former tank. (See attached photograph at end of Figures Section.) Excavation was performed to a depth of 8 feet. The test pitting was performed to determine the presence of an existing UST or associated piping. Soil conditions were also inspected for visual signs of contamination. Soil samples were recovered for volatile organic screening and laboratory analysis.

Soils in the test pit excavation were found to be a brown fine to medium sand and gravel with some silt, typical of fill material. Decomposed rock was encountered at a depth of 8 feet. No evidence of subsurface environmental impact from tank leakage or a past release was noted in the excavation. No evidence of an existing UST or associated piping was found. Groundwater was not encountered at the bottom of hole (8 feet).

Soil Screening

The soils excavated during test pitting were to be screened for the presence of volatile organic (VOCs) using a portable HNu PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp. However, due to instrument failure in the field screening of the sample was not possible.

Laboratory Results

The soil sample collected from the bottom of the test pit was submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Method 8010 and 8020. The laboratory results are presented below. Copies of the chain of custody form and the laboratory report are presented in the Appendix.

LABORATORY RESULTS
NETC Building 304, Coddington Point, Newport, RI

Sample ID	TPH-IR (mg/kg)	VOCs (μg/kg)
TP-304	567	ND

ND - Not detected at the laboratory detection limit

No detectable concentrations of VOCs were reported by the laboratory. Low levels of petroleum hydrocarbons were reported; however, the reported value is considered due to interference from the fill material. No evidence of petroleum contamination was observed in the test pit excavation performed in the UST grave.

The laboratory detection limit for VOCs is 2.0 mg/kg. The detection limit for TPH is 40 mg/kg.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 1,000 gallon underground storage tank was removed by the Navy in 1974, as indicated in NETC records, when Building 304 heating system was converted to central steam. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

No evidence was found to suggest significant subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

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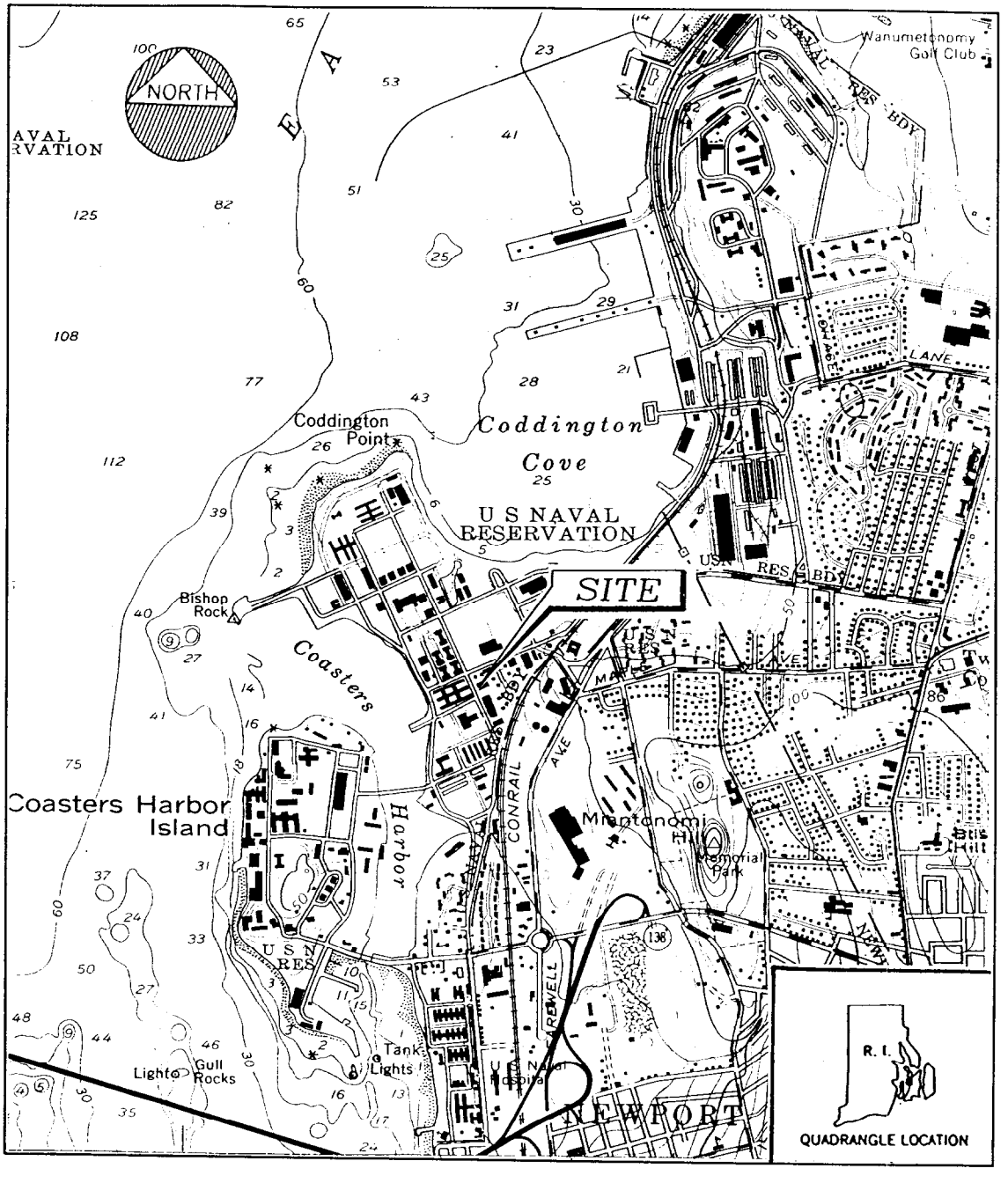
Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

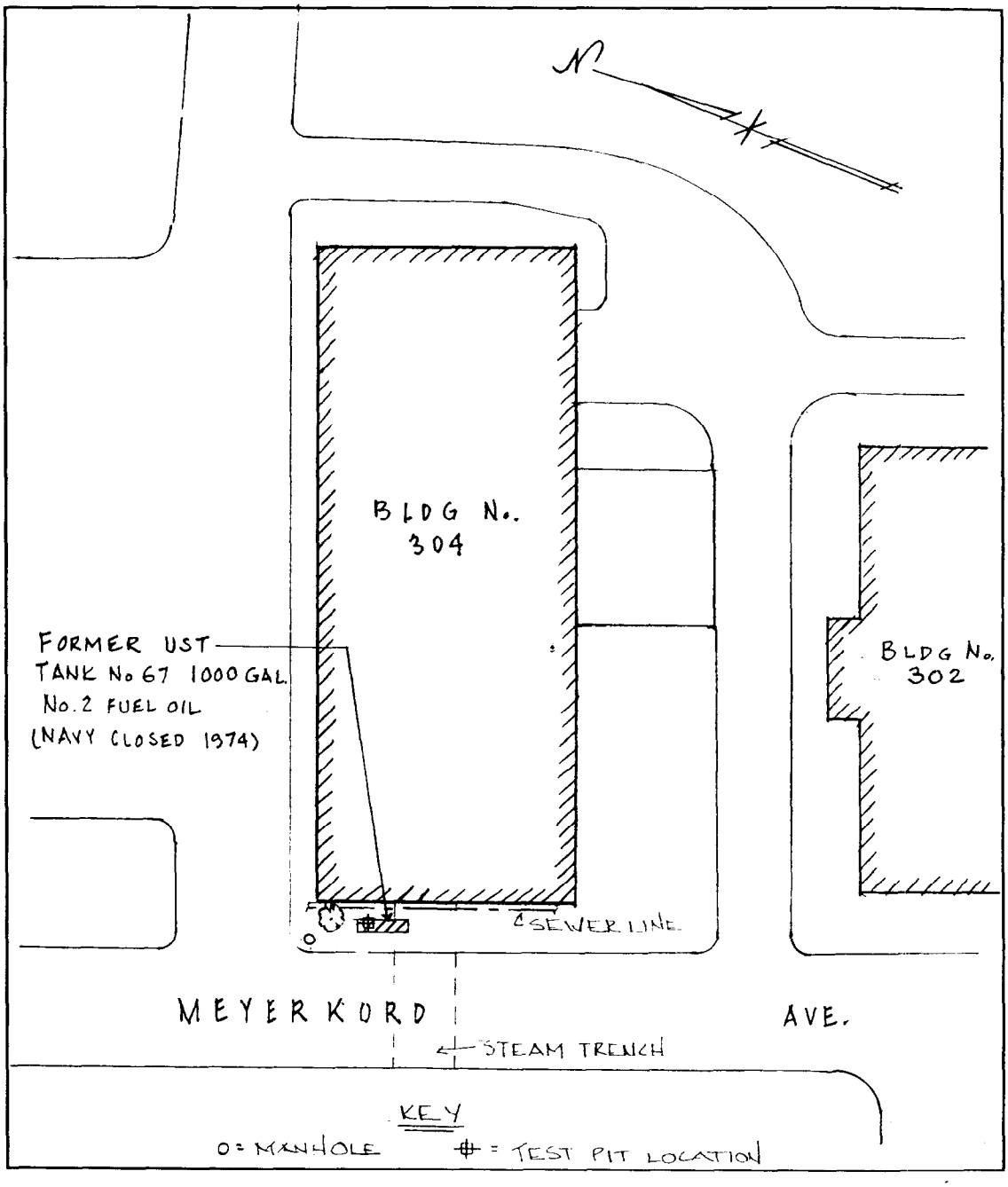
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERA

FIGURE 1
SITE LOCUS
Fac #1514
UST at Bldg 304, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #1514
USTs at Bldg 304, Coddington Cove
NETC - Newport, R.I.

NETC Building 304 - Test Pit Excavation

BLD 304
CODD. PT

CLOSURE

D' 'RTMENT OF ENVIRONMENTAL MANAGE'NT
DIVISION OF WATER RESOURCES
75 DAVIS STR
PROVIDENCE, RHO
(401) 2

3119

APPLI

App: OK

15014

For Underground S
- Certificate o

Map: OK

JM

RATION NUMBER: 15014

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER DATE: 31 JAN 85

STREET ADDRESS: Bldg 304, Codd. Point /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942 F

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /*/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
69	43 ~~103~~	1,000	Steel 01	~~#2-Fuel-Oil~~ 02 (abandoned)	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) (See below) /X/ Other Burner

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /+/ No

7) U.L. Standard Used unknown

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?

/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well

/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? 1

b) Classify the type of tank closure /__/ Temporary /X/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /X/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

TEST CODE 8010 NAME PURGEABLE HALOCARBONS

EPA Method: 8010. Halogenated Volatile Organics.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE 8020 NAME PURGEABLE AROMATICS

EPA Method: 8020. Volatile Aromatic Compounds incl. MTBE.

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE TPH IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: [illegible] - [illegible]

DUE DATE : [illegible] - [illegible] - [illegible]

RAPID RESPONSE

COMPANY: ERA ENGINEERING
ADDRESS: 144 BIGNALL ST.
WARWICK, RI 02888
PHONE #: (401) 781-7422 FAX #: (401) 781-1605
P.O. #:
PROJECT MANAGER: Mike CLARK
PROJECT ID/LOCATION: 74137

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

ANALYSES: TPH-IR; VOL (8010/8020)

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH-IR	VOL (8010/8020)	COMMENTS
1	TP-402	soil	8oz	G	1	8/11		None	X	X	
2	TP-115	"	"	G	1	"		"	X	X	
3	TP-1920	"	"	G	1	"		"	X	X	
4	TP-304	"	"	G	1	"		"	X	X	
5	TP-302	"	"	G	1	"		"	X	X	

SAMPLED BY: William M. Anderson	DATE: 8-11-97 TIME: - -	RECEIVED BY: M [illegible]	DATE: [illegible] TIME: [illegible]
RELINQUISHED BY: M [illegible]	DATE: 8-12-97 TIME: 17:00 - PM	RECEIVED BY: [illegible]	DATE: [illegible] TIME: [illegible]
RELINQUISHED BY:	DATE: - - TIME: - -	RECEIVED FOR LAB BY:	DATE: - - TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

SPECIAL INSTRUCTIONS:

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?

Yes ____ No ____ If Yes, 1st Known ____________

SAMPLE ID TP-304 SAMPLE # 04 FRACTIONS: A
Date & Time Collected 08/11/94 Category SOIL

TPH_IR 567
mg/Kg DL=40.0

Received: 08/16/94 Results by Sample

SAMPLE ID TP-304 FRACTION 04A TEST CODE 8010 NAME PURGEABLE HALOCARBONS
Date & Time Collected 08/11/94 Category SOIL

PURGEABLE HALOCARBONS

	RESULT	LIMIT
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
Trans-1,3-Dichloropropane	ND	2.0
Trichloroethene	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Dibromochloromethane	ND	2.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
Chlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1

ND = not detected at detection limit

SAMPLE ID TP-304 FRACTION 04A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/11/94 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	2.0
TOLUENE	ND	2.0
ETHYLBENZENE	ND	2.0
XYLENES (TOTAL)	ND	2.0

Notes and Definitions for this Report:

DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1
UNITS: ug/Kg
ND = not detected at detection limit

 TOXIKON CORP. REPORT Work Order # 94-08-336

Received: 08/16/94 08/23/94 16:22:09

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 5
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 8/11/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 TP-402
02 TP-115
03 TP-1920
04 TP-304
05 TP-302

TEST CODES and NAMES used on this workorder

8010 PURGEABLE HALOCARBONS
8020 PURGEABLE AROMATICS
TPH IR TPH BY IR

UST CLOSURE ASSESSMENT

NETC BUILDING 340
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 203

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 340 September 15, 1994
Project No. 94137

Site: **Building 340**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: 203

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of an underground storage tank (UST) located at the above referenced location. The purpose of the study was to confirm the status of the UST which NETC records indicate was excavated removed and replaced, but is identified by the RIDEM UST Program as existing. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 340 is a single story, slab on grade brick structure located east of 10th Street, near Gate 2 in the Coddington Point section of the Newport Naval Base. A site locus plan is presented as Figure 1. Building 340 is utilized by the NETC Maintenance Department. The subject UST area is located on the southerly side of Building 340. The site layout and UST location is indicated in Figure 2.

USGS topographic mapping shows the site set at an elevation of about 10 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955, photorevised 1970 and 1975). Site topography is flat and is at street grade. Regional topography gently slopes in a general westerly direction.

There are no wetland areas in the immediate vicinity of the UST location. The nearest surface water body is a freshwater tributary discharging to Coasters Harbor, located about 500 feet to the southwest.

UST Description

The subject UST is a 500 gallon, single wall steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 21. The tank formerly held No.2 fuel oil and was installed in 1942.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be on the southerly side of Building 340.

Background

NETC records indicate that the subject tank was cleaned, removed and disposed of as scrap metal in March 1990. The tank was replaced with a new 500 gallon No.2 oil UST which is present at the site and is active. The building is occupied by the Maintenance/Public Works Department.

RIDEM records were reviewed and found to contain a certificate of registration for the tank dated 3/22/85. The tank is identified on the registration and in the UST Master Index as existing. No information was found in the file to suggest it had been removed nor that a new tank was installed. No further information was found for either UST. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be radially in a southwesterly direction towards Coasters Harbor. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the subject site included a walkover, magnetometer survey and soil intrusive test boring. Test boring location is indicated in Figure 2. Findings are summarized below.

Site Walkover & Magnetometer Survey

On July 13, 1994, the area encompassing the UST was visually inspected for the presence of fills and/or vent lines. Fill and vent lines were present for the existing new tank. Due to the presence of the existing UST, the area was not scanned with a magnetometer.

Test Boring

A test boring was placed in the vicinity of the tank grave on July 14, 1994, to a depth of 12 feet. Drilling was performed using a truck mounted auger under the direction of an ERA field engineer. Soil samples were recovered at five foot intervals using a 2 inch ID steel split spoon driven with a 140 pound hammer. Samples were inspected for physical characteristics and evidence of subsurface contamination. The samples were screened in the field for the presence of volatile organic compounds (VOCs). Samples exhibiting levels above background were retained for analytical analysis.

Soils encountered in the borehole consisted of dark gray silt to a depth of 6 feet, followed by gray compacted, silty fine to medium sand and some fine gravel to a depth of 12 feet. Sample S-2 (collected at depth 5-7 feet) exhibited a slight fuel oil odor and therefore was retained for laboratory analysis. Groundwater was encountered at a depth of about 6 feet 7 inches.

Soil Screening

Soil samples were screened for the presence of volatile organic compounds (VOCs) using a portable HNu PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations. The HNu screening results are presented in the table below.

TOTAL VOLATILE ORGANIC COMPOUND FIELD SCREENING RESULTS
NETC Building 340, Coddington Point, Newport, RI

Sample ID No.	Depth (feet)	HNu Reading (ppm)
S-1	0-2'	3
S-2	5-7'	13
S-3	10-12'	2

Laboratory Results

Soil sample S-3 had exhibited petroleum odors in the field and slightly elevated HNu readings. The sample was submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics (EPA Method 8240). The laboratory results are presented in the table below. A copy of the chain of custody form and laboratory Certificates of Analysis is attached.

LABORATORY RESULTS *NETC Building 340, Coddington Point, Newport, RI*		
Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
B-340, S-2	518	ND

ND - Not detected at the laboratory detection limit

No detectable concentrations of VOCs were reported by the laboratory. Elevated levels of petroleum hydrocarbons were reported by the laboratory in boring sample S-2. Fuel oil odors were present at the time of boring operations. Laboratory detection limit for VOCs is 2.0 mg/kg. The detection limit for TPH is 40 mg/kg.

Conclusions

RI DEM should issue a Certificate of Closure to the NETC and correct Master List; however, Site Investigation Report (SIR), if required, for these tanks should be forwarded to the LUST Section for further action.

NETC Records indicate that the subject 500 gallon No. 2 fuel oil tank was removed in 1990 and replaced with a new 500 gallon tank. Evidence was found to suggest subsurface soil and groundwater impact as a result of a past release or leakage in the vicinity of the subject UST grave. The source and extent of the contamination was not determined and is beyond the scope of this study. It is ERA's opinion that further site investigation is warranted.

Limitations

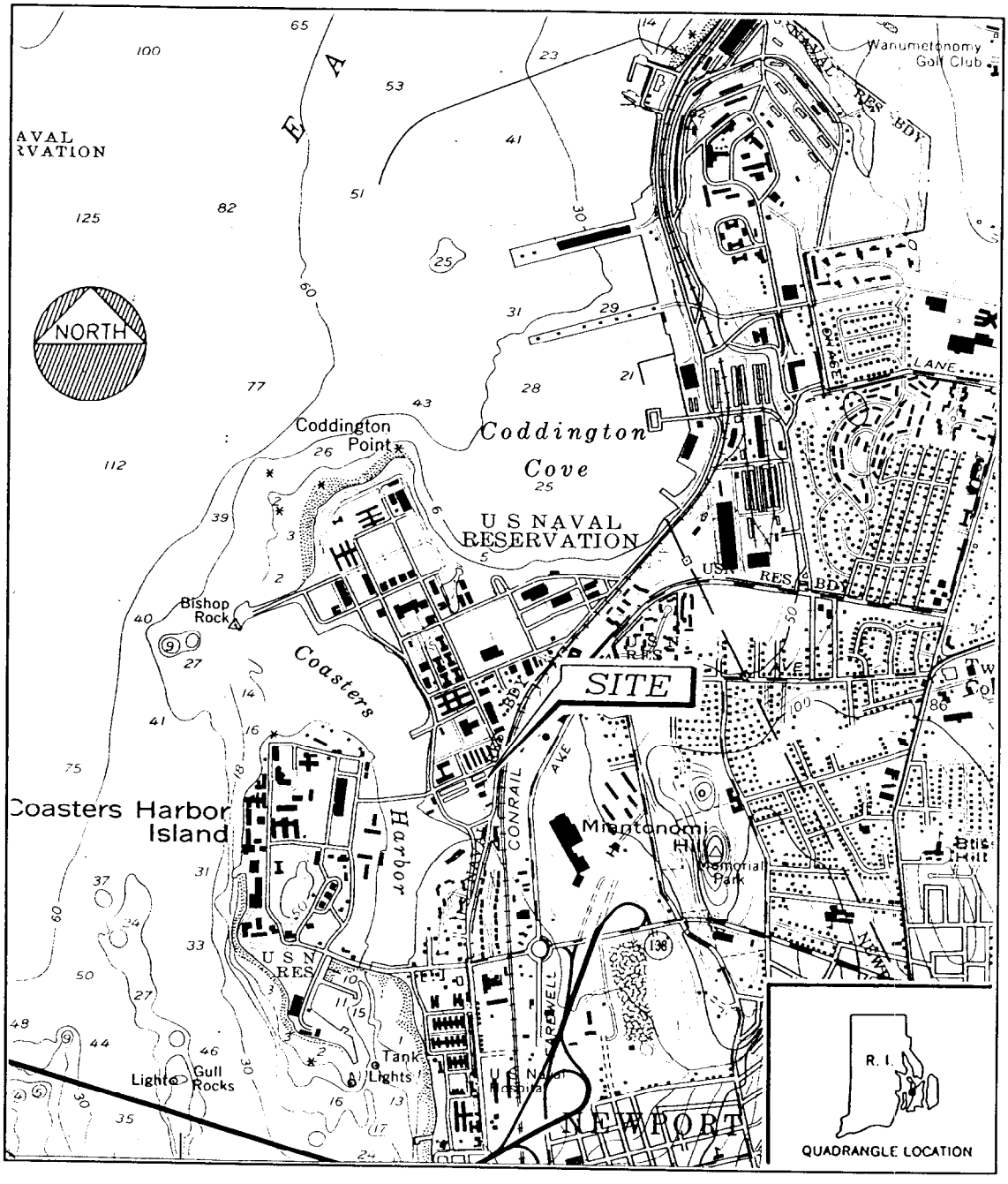
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

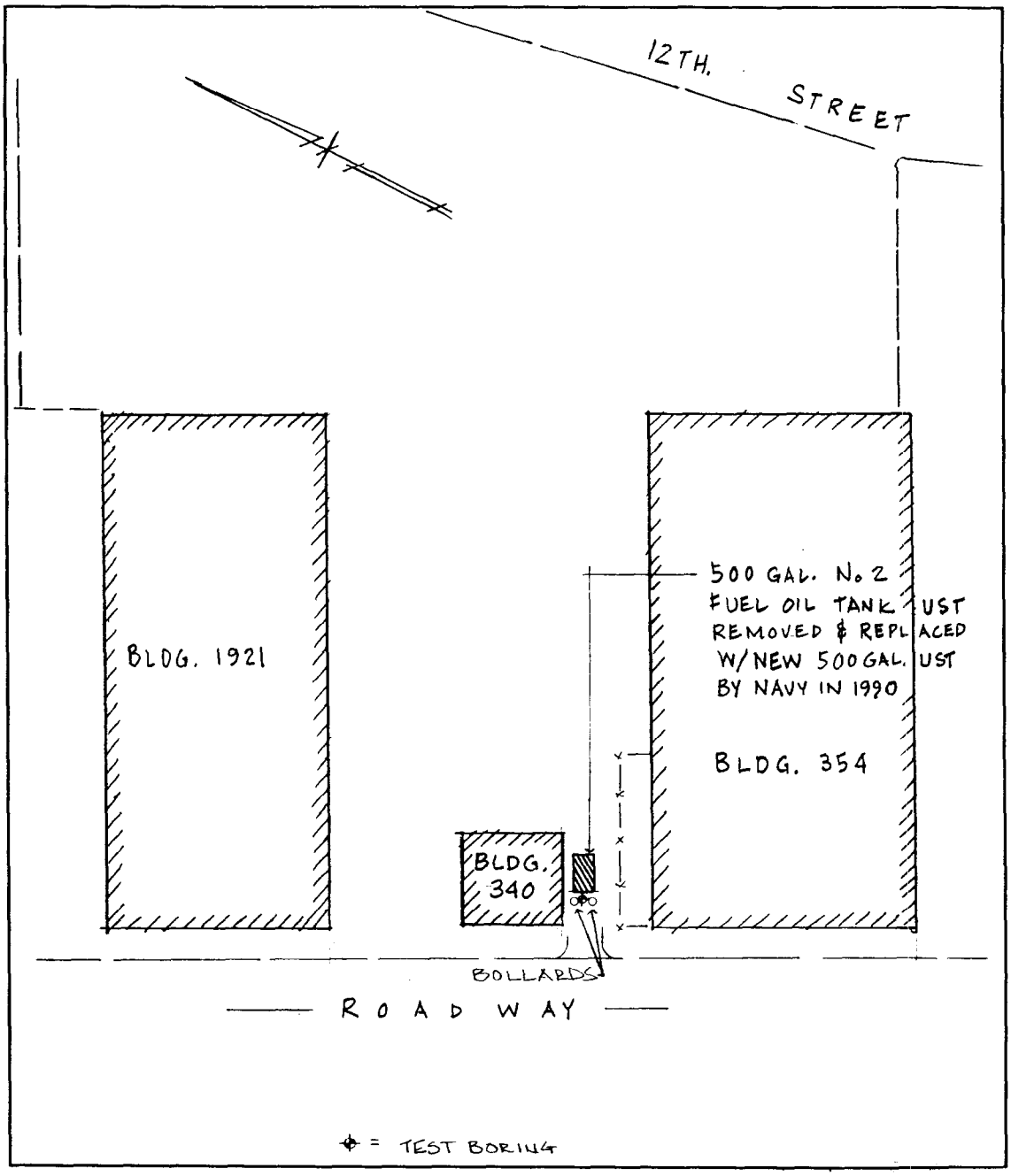
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERA

FIGURE 1
SITE LOCUS
Fac #203
UST at Bldg 340, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #203
USTs at Bldg 340, Coddington Cove
NETC - Newport, R.I.

BLD 340
CODD. PT.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

CERTIFICATE # 203

CERTIFICATE OF REGISTRATION
For Underground Storage Facilities

In compliance with Chapter 46-12 of the Rhode Island General Laws, as amended and the Emergency Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials

the owner/operator of an underground storage facility located at:

Naval Education & Training Center
Building 340, Codd. Pt.
Newport, RI

is issued this Certificate of Registration to operate an underground storage facility based upon the factual representations contained in the Application for Registration (Number 203) and in accordance with the Emergency Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials and any additional terms and conditions stated below:

TANK NO. 21

This Certificate of Registration can not be transferred to any other person, facility or location without the express written approval of the Director of the Department of Environmental Management, or his designee and in accordance with appropriate regulations.

This Certificate of Registration may be modified or revoked in accordance with appropriate regulations.

Signed this 22 day of March, 1985.

Reviewed by Henry A. Sardelli, P.E.

Henry A. Sardelli, P.E.

Approved: James W. Foster

Chief, Division of Water Resources
Rhode Island Department of
Environmental Management
Providence, Rhode Island 02908

JWF/as

DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

REGISTRATION NUMBER: 203

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER 134 F DATE: 31 JAN 85

STREET ADDRESS: Bldg 340 Codd. Point 22 /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /__/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
21 E	43 42/03	500	Steel 01	#2 Fuel Oil 02	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) (See below) /X/ Other Burner

a) Line Leak Detection System Installed /__/ Yes /x/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /x/ No

7) U.L. Standard Used unk n

8) Are recovery wells installed? /__/ Yes /x/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?
/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well
/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? _____

b) Classify the type of tank closure /__/ Temporary /__/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /__/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, NEWPORT, RI 02841

Telephone Number: 401-841-3735

UST CLOSURE ASSESSMENT

NETC BUILDING 402
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 196

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 402 August 31, 1994
Project No. 94137

Site: **Building 402**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: 196

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank closure assessment of an underground storage tank (UST) at the above referenced location. The purpose of the study was to confirm the status of the UST which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in-place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the form UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis and field screening for volatile organics.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

The subject site is presently a soccer field located across the street and south of Building 656. The site at one time was developed with the Navy Exchange (subject Building 402). A site locus plan is presented as Figure 1. The subject UST area is located on the northwest corner of the property adjacent to a concrete retaining wall and is identified in the site plan presented as Figure 2. Utilities serving the area include public water, municipal sewer, and central steam.

USGS topographic mapping shows the site set at an elevation of 20 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955. Photorevised 1970 and 1975). Site

topography is flat and is below street grade. Local topography gently slopes in a generally easterly direction. A retaining wall is present to the north along the street line. There are no wetland areas in the immediate vicinity of the UST location.

UST Description

The subject UST is described as a 3,000 gallon, single walled, steel tank registered to the Navy Education & Training Center and identified in the RIDEM Master Index of Registered USTs as Tank No. 14. The tank formerly held No. 2 fuel oil for the Building 402 boiler.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be off the southwest corner of Building 402.

Background

NETC records indicate that the tank was closed and removed in 1987 following the construction of the new Naval Exchange Building located west of the site. Building 402 formerly served as the Naval Exchange. The subject UST was closed and removed from the site when Building 402 was demolished. The area was graded and converted to a soccer field.

The RIDEM UST file for the facility contained a certificate of registration and an application form. The application identifies the vessel as a 3,000 gallon steel UST formerly used to store No.2 fuel oil. The tank was installed around 1943. The tank is listed as existing. No other information was contained in the file. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment due to known or presumed degradation. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topopgraphy and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a northerly direction towards Coddington Cove. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the subject site included a walkover, magnetometer survey and soil intrusive investigations (borings and test pit explorations). Test boring and test pit locations are indicated in Figure 2. Findings are summarized below.

Site Walkover & Magnetometer Survey

On July 13, 1994, ERA personnel performed a site reconnaissance of the former UST location and a magnetometer survey. No fills, vent lines or other evidence of an existing UST was observed. Anomalous readings were recorded with the metal detector in the suspect vicinity of the UST grave. The readings were marked for later exploration.

Test Boring

On July 14, 1994, a test boring was advanced in the vicinity of the tank grave to a depth of 12 feet. Drilling was performed using a truck mounted auger under the direction of an ERA field engineer. Soil samples were recovered at five foot intervals using a 2 inch ID steel split spoon driven with a 140 pound hammer. Samples were inspected for physical characteristics and evidence of subsurface contamination. The samples were screened in the

field for the presence of volatile organic compounds (VOCs). Samples exhibiting levels above background were retained for analytical analysis.

Test borings indicate soils in the vicinity of the former tank to be brown fine to medium sand and gravel, some silt, with a trace of shale. Decomposed schist was encounter at a depth of 11' from grade. Sample S-2 (taken at a depth of 5-7') exhibited a slight petroleum odor similar to fuel oil. No evidence of an existing UST or associated piping was noted. Groundwater seepage was not observed in the samples collected from the borehole. A copy of the boring logs are presented in the Appendix.

Test Pits

On August 11, 1994, three test pits were excavated to a depth of eight feet in the area of the tank grave and the metal detector anomalies. (See attached photographs at the end of the Figures Section.) Soils encountered in the test pit excavations consisted of unstratified sand, gravel and silt, with a trace of stone and cobbles. Small lenses of clay/very fine silts were encountered. Groundwater seepage was observed at a depth of 6.5 feet. Soil samples obtained at a depth of 6.5 feet exhibited a strong petroleum odor similar to No.2 fuel oil. A soil sample was collected at 6 feet for laboratory analysis. No evidence of an underground tank or associated piping was encountered in the metal detector anomaly area.

Soil Screening

Soil samples collected from the test boring were screened in the field for the presence of volatile organics with an HNu Model PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp. The test pit samples were not screened due to instrument failure.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations. The HNu screening results are presented in the table below.

VOLATILE ORGANIC COMPOUND SCREENING RESULTS - TEST BORING SAMPLES *NETC Building 402, Coddington Point, Newport, RI*		
Sample ID No.	Depth (feet)	HNu Reading (ppm)
S-1	0-2'	ND
S-2	5-7'	16
S-3	10-12'	ND

ND - not detected

Soil sample S-2, which had been noted to exhibit a petroleum odor in the field also registered a slightly elevated HNu reading. As discussed later in this report, the S-2 sample was submitted to a laboratory for quantitative analysis.

The groundwater encountered during test pitting operations exhibited a strong fuel oil odor, however, no sheens or floating product was observed on the groundwater table.

Laboratory Results

The soil samples collected from both boring and test pit operations were submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Method 8240, 8010, and 8020. A summary of the results is presented below. Copies of the sample chain of custody form and the laboratory Certificates of Analysis are included in the Appendix.

LABORATORY RESULTS *NETC Building 402, Coddington Point, Newport, RI*		
Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
B-402, S-2	1290	ND
TP-402	3280	ND

ND - Not detected at laboratory detection limit

No detectable concentrations of VOCs were reported by the laboratory. The elevated petroleum hydrocarbon concentrations reported in both borings suggest a past release or UST leakage. As discussed earlier, both samples had exhibited petroleum odors in the field. The laboratory detection limit is 1.0 mg/kg for VOCs (boring sample) and 10 µg/kg for VOCs (test pit sample). The laboratory detection limit for TPH is 40 mg/kg.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 3,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 402 was demolished. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

During subsurface explorations, evidence was found suggesting subsurface soil and groundwater impact as a result of leakage or a past release from the subject underground tank. Petroleum contaminated soils were encountered in the vicinity of the former UST at a depth of 6-7 feet from grade. The extent of contamination is unknown at the present time. RI DEM should issue a Certificate of Closure to the NETC and correct Master List; however, Site Investigation Report (SIR), if required, for these tanks should be forwarded to the LUST Section for further action. It is ERA's opinion that further site investigation or remediation for the site is warranted.

Limitations

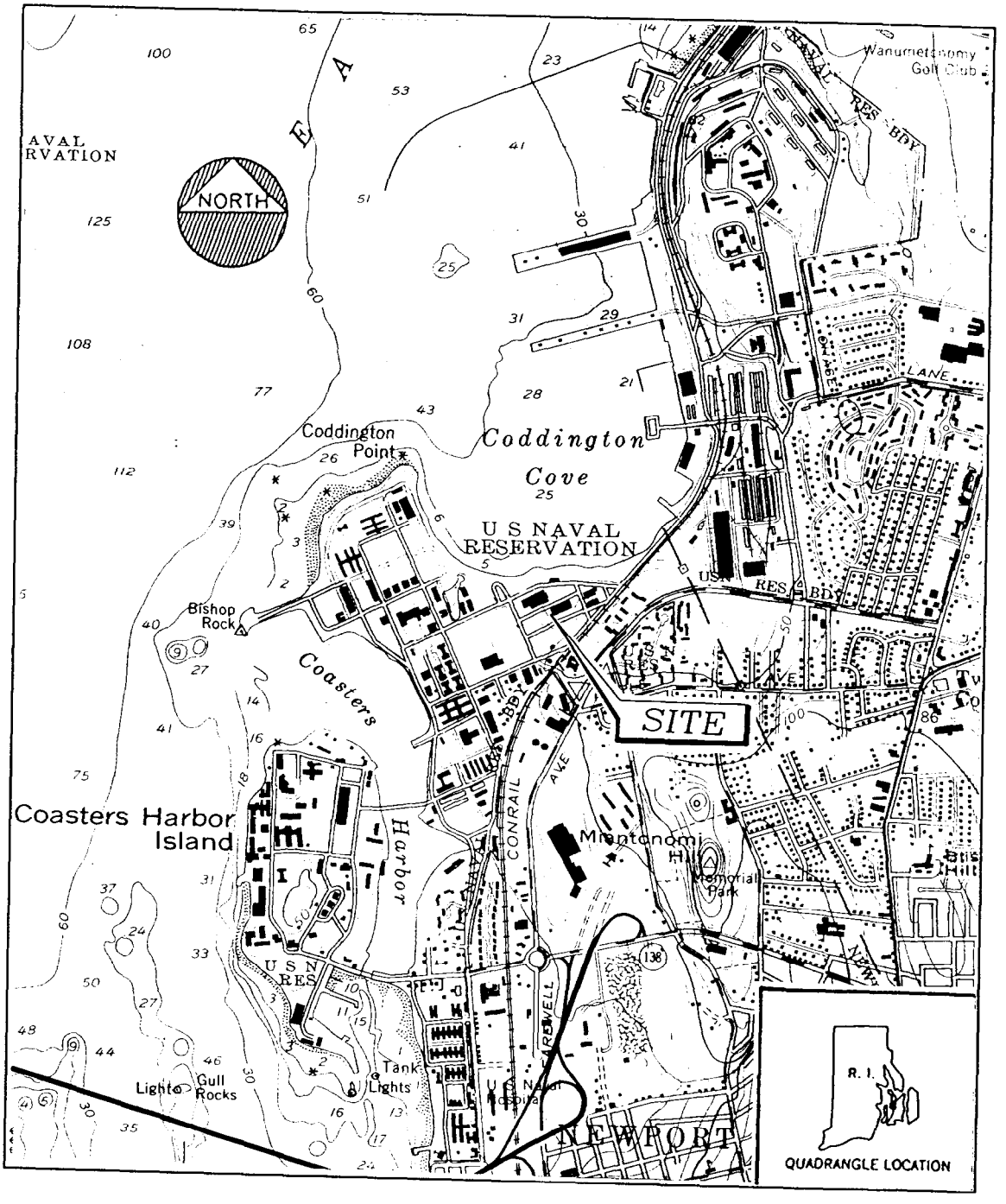
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

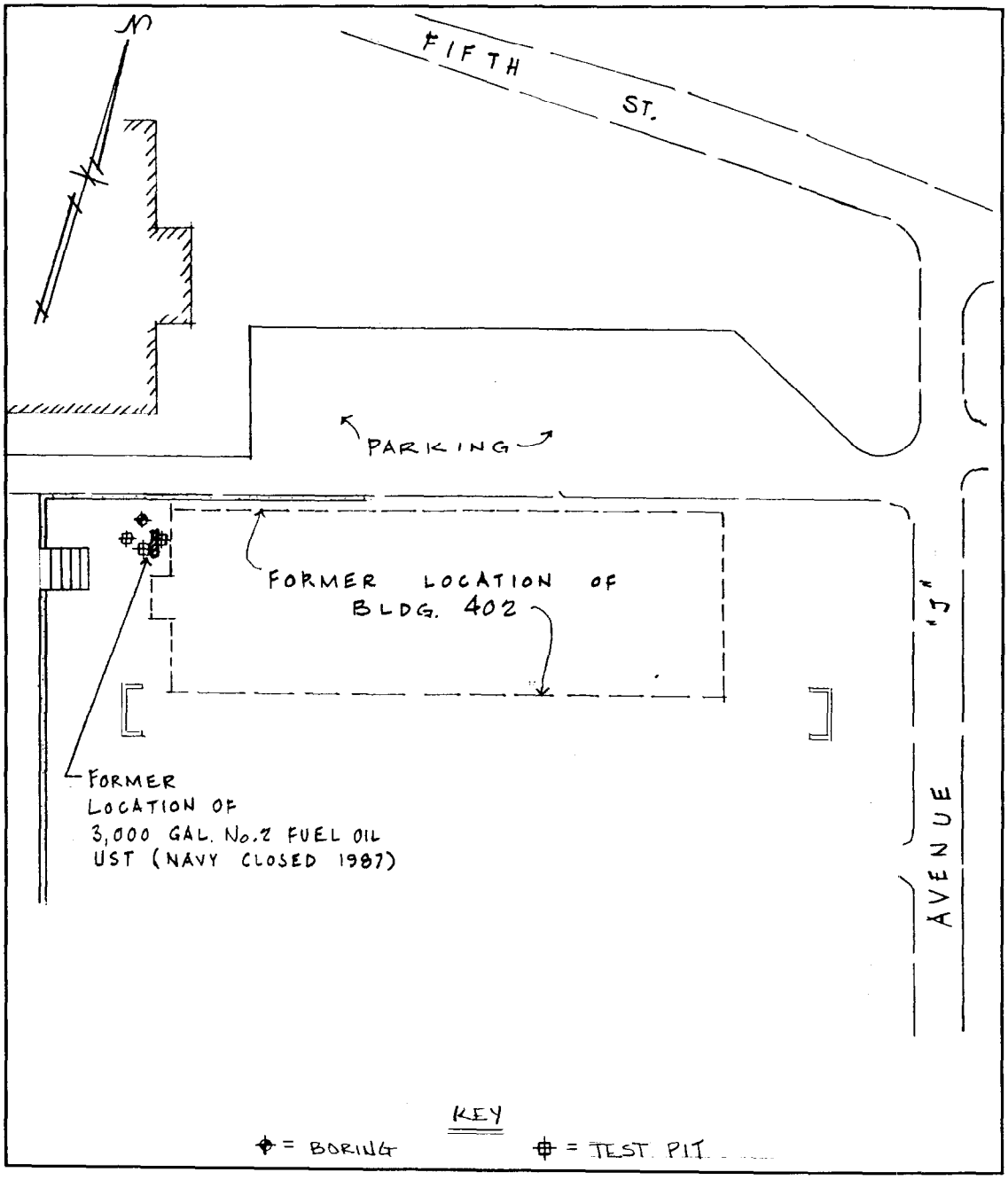
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERA

FIGURE 1
SITE LOCUS
Fac #196
UST at Bldg 402, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #196
USTs at Bldg 402, Coddington Cove
NETC - Newport, R.I.

NETC Building 402 - Test Pit Excavation

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

REGISTRATION NUMBER: 196

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER 4F 22 DATE: 31 JAN 85

STREET ADDRESS: Bldg 402, Codd. Point /X/ OWNER

CITY/TOWN: Newport, RI ZIP02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1941/42

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /X/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
14 E	43 42/03	3,000	Steel 01	#2 Fuel Oil 02	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) /X/ Other Burner
(See below)

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used UNKNOWN

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?

/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well

/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? _____

b) Classify the type of tank closure /__/ Temporary /__/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /__/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: (401) 841-3735

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

CERTIFICATE # 196

CERTIFICATE OF REGISTRATION
For Underground Storage Facilities

In compliance with Chapter 46-12 of the Rhode Island General Laws, as amended and the Emergency Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials

the owner/operator of an underground storage facility located at:

Naval Education & Training Center
Building 402, Codd. Pt.
Newport, RI

is issued this Certificate of Registration to operate an underground storage facility based upon the factual representations contained in the Application for Registration (Number 196) and in accordance with the Emergency Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials and any additional terms and conditions stated below:

Tank No. 14

This Certificate of Registration can not be transferred to any other person, facility or location without the express written approval of the Director of the Department of Environmental Management, or his designee and in accordance with appropriate regulations.

This Certificate of Registration may be modified or revoked in accordance with appropriate regulations.

Signed this 22 day of March, 1985.

Reviewed by Henry A. Sardelli, P.E.
Henry A. Sardelli, P.E.

Approved: James W. Foster
Chief, Division of Water Resources
Rhode Island Department of
Environmental Management
Providence, Rhode Island 02908

JWF/as

GUILD DRILLING CO., INC.

100 WA..K STREET EAST PROVIDENCE, R I.

SHEET 1 OF 1
DATE
HOLE NO. B-402
LINE & STA.
OFFSET
SURF. ELEV.

TO E R A Engineering
PROJECT NAME Site Assessment @ Naval
REPORT SENT TO above / Housing
SAMPLES SENT TO Taken at Site

ADDRESS Warwick, R.I.
LOCATION Portsmouth, R.I.
PROJ. NO.
OUR JOB NO. 95-46

GROUND WATER OBSERVATIONS
At Dry after Hours
At after Hours

	CASING	SAMPLER	CORE BAR
Type	H/S/A	S/S	
Size I.D.	4½"	1-3/8"	
Hammer Wt		140#	BIT
Hammer Fall		30"	

	Date	Time
START	7/14/94	a.m. p.m.
COMPLETE	7/14/94	a.m. p.m.

TOTAL HRS.
BORING FOREMAN P. Brescia
INSPECTOR Bill
SOILS ENGR.

LOCATION OF BORING:

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE No.	Pen	Rec
		0'-2'	A						6" Topsoil - Loam Brown fine to medium SAND & Gravel	1	24'	-
		5'-7'	D	7	12	13 14		5'6"	Gray compact fine to medium SAND, some silt, trace Shale	2	24'	22'
		10'-11'3"	D	13	42	80/3'		11' 11'3"	Decomposed SCHIST Bottom of Boring 11'3"	3	15'	15'

GROUND SURFACE TO 10' USED Auger "CASING: THEN S/S to 11'3"

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency		
0-10	Loose	0-4	Soft	30 + Hard
10-30	Med. Dense	4-8	M/Stiff	
30-50	Dense	8-15	Stiff	
50 +	Very Dense	15-30	V-Stiff	

SUMMARY
Earth Boring 11'3"
Rock Coring
Samples 3

HOLE NO. B-402

TOWN PRESS – EAST PROV.

Received: 07/15/94 07/20/94 17:01:11

REPORT TO: ERA ENGINEERING
144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED BY: TOXIKON CORPORATION
225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY: Paul Lezberg
CONTACT TODD

CLIENT ERA SAMPLES 13
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 7/4/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By: Kimberly Palmer
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 B404/S-2
02 B404/S-2
03 B402/S-2
04 B402/S-2
05 B340/S-2
06 B340/S-2
07 B115/S-3
08 B115/S-3
09 B1112/S-2
10 B1112/S-2
11 B1920/COMP
12 B1920/COMP
13 B44/1A-2

TEST CODES and NAMES used on this workorder

8240 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

SAMPLE ID B402/S-2 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 07/04/94 Category SOIL

TPH_IR 1290
mg/Kg DL=40.0

Received: 07/15/94 Results by Sample

SAMPLE ID B402/S-2 FRACTION 04A TEST CODE 8240 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 07/04/94 Category SOIL

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	trans-1,3-Dichloropropene	ND	2.0
Acrylonitride	ND	10	Trichloroethene	ND	2.0
Chloromethane	ND	2.0	Dibromochloromethane	ND	2.0
Bromomethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Vinyl Chloride	ND	10	Benzene	ND	2.0
Chloroethane	ND	2.0	cis-1,3-Dichloropropene	ND	2.0
Methylene Chloride	ND	10	2-Chloroethylvinylether	ND	2.0
Acetone	ND	50	Bromoform	ND	2.0
Carbon Disulfide	ND	2.0	2-Hexanone	ND	4.0
1,1-Dichloroethene	ND	2.0	4-Methyl-2-pentanone	ND	4.0
Trichlorofluoromethane	ND	2.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Total 1,2-Dichloroethene	ND	2.0	Toluene	ND	2.0
Chloroform	ND	2.0	Chlorobenzene	ND	2.0
1,2-Dichloroethane	ND	2.0	Ethyl Benzene	ND	2.0
2-Butanone	ND	10	Styrene	ND	2.0
1,1,1-Trichloroethane	ND	2.0	Total Xylenes	ND	2.0
Carbon Tetrachloride	ND	2.0	1,2-Dichlorobenzene	ND	2.0
Vinyl Acetate	ND	2.0	1,3-Dichlorobenzene	ND	2.0
Bromodichloromethane	ND	2.0	1,4-Dichlorobenzene	ND	2.0
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 07/18/94
ANALYST: XL
INSTRUMENT: HP-V2
DIL. FACTOR: 1
COMMENTS:
UNITS: ug/kg

ND = not detected at detection limit

TEST CODE 8240 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8240: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

This method has been modified by the use of a capillary column.

TEST CODE TPH_IR NAME TPH BY IR

EPA METHOD: 418.1 for water sample.

Reference: Methods for Chemical Analysis of Water and Wastes.
EPA 600/4-79-020 (Revised, March 1983). EPA/EMSL, Cincinnati, OH.

EPA METHOD: 9071/9073

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

 TOXIKON CORP. REPORT Work Order # 94-08-336

Received: 08/16/94 08/23/94 16:22:09

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 5
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 8/11/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 TP-402
02 TP-115
03 TP-1920
04 TP-304
05 TP-302

TEST CODES and NAMES used on this workorder

8010 PURGEABLE HALOCARBONS
8020 PURGEABLE AROMATICS
TPH IR TPH BY IR

SAMPLE ID TP-402 SAMPLE # 01 FRACTIONS: A
Date & Time Collected 08/11/94 Category SOIL

TPH_IR	3280
mg/Kg DL=40.0	

Received: 08/16/94 Results by Sample

SAMPLE ID TP-402 FRACTION 01A TEST CODE 8010 NAME PURGEABLE HALOCARBONS
Date & Time Collected 08/11/94 Category SOIL

PURGEABLE HALOCARBONS

	RESULT	LIMIT
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Dichlorodifluoromethane	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	10
Trichlorofluoromethane	ND	10
1,1-Dichloroethene	ND	10
1,1-Dichloroethane	ND	10
trans-1,2-Dichloroethene	ND	10
Chloroform	ND	10
1,2-Dichloroethane	ND	10
1,1,1-Trichloroethane	ND	10
Carbon tetrachloride	ND	10
Bromodichloromethane	ND	10
1,2-Dichloropropane	ND	10
Trans-1,3-Dichloropropane	ND	10
Trichloroethene	ND	10
cis-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
Dibromochloromethane	ND	10
2-Chloroethylvinyl ether	ND	10
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	10
Tetrachloroethene	ND	10
Chlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,2-Dichlorobenzene	ND	10

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 08/22/94
ANALYST: ST
INSTRUMENT: LSC 2
DIL. FACTOR: 5

ND = not detected at detection limit

Received: 08/16/94 Results by Sample

SAMPLE ID TP-402 FRACTION 01A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/11/94 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	10
TOLUENE	ND	10
ETHYLBENZENE	ND	10
XYLENES (TOTAL)	ND	10

Notes and Definitions for this Report:

DATE RUN: 08/22/94
ANALYST: ST
INSTRUMENT: LSC 2
DIL. FACTOR: 5
UNITS: ug/Kg

ND = not detected at detection limit

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: 94-07-1002

DUE DATE : 7-27-94

COMPANY: ERA ENGINEERING
ADDRESS : 144 BIGNALL STREET
WARWICK, RI 02888

PHONE # : 401 781-7422 FAX #: 401 781-1605
P.O. # :
CLIENT CONTACT : MIKE CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. TISSUE	
OTHER	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: TPH	ANALYSES: VOC 624	COMMENTS
1	B404/S-2	2	8oz	G	1	7/4		None	X		
2	"	"	4	G	1	"				X	
3	B402/S-2	"	8	"	1	"			X		
4	"		4	"	1	"				X	
5	B340/S-2	"	8	"	1	"			X		
6	"	"	4	"	1	"				X	
7	B115/S-3	"	8	"	1	"			X		
8	"	"	4	"	1	"				X	
9	B112/S-2	"	8	"	1	"			X		
10	"	"	4	"	1	"				X	
11	B1520/comp	"	8	"	4	"			X		
12	"	"	4	"	1	"				X	
13	B44/1A-2	"	8/4	"	1/1	"		"	X	X	

RELINQUISHED BY: Margaret A. Carlson	DATE: 7-15-94	RECEIVED BY: M. DAVIS	DATE: 7-15-94
	TIME: - -		TIME: 1500 -
RELINQUISHED BY: M. DAVIS	DATE: 7-11-94	RECEIVED BY: D. Thompson	DATE: 07-15-94
	TIME: 17-00 -		TIME: 1100 -
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -
	TIME: - -		TIME: - -

METHOD OF SHIPMENT:

SPECIAL INSTRUCTIONS:

☐ RUSH, ... DAY TURN AROUND
☐ ROUTINE

RAPID RESPONSE

TOXIKON
225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: [illegible]

DUE DATE : [illegible]

COMPANY: ERA ENGINEERING
ADDRESS: 144 BIGNALL ST.
WARWICK, RI 02888
PHONE #: (401) 781-7422 FAX #: (401) 761-1605
P.O. #:
PROJECT MANAGER: Mike CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH-IR	VOA (5030/8020)	COMMENTS
1	TP-402	soil	8oz	6	1	8/11		None	X	X	
2	TP-115	"	"	6	1	"		"	X	X	
3	TP-1920	"	"	6	1	"		"	X	X	
4	TP-304	"	"	6	1	"		"	X	X	
5	TP-302	"	"	6	1	"		"	X	X	

SAMPLED BY: William M. Anderson	DATE: 8-11-91	RECEIVED BY:	DATE: [illegible]	SPECIAL INSTRUCTIONS:
	TIME: - -		TIME: [illegible]	
RELINQUISHED BY:	DATE: 8-11-91	RECEIVED BY:	DATE: [illegible]	☐ RUSH ..... BUSINESS DAY TURN AROUND
	TIME: 17:00		TIME: [illegible]	☐ ROUTINE
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -	*Sample disposal information*
	TIME: - -		TIME: - -	Are there any other known or suspected contaminants in these samples other than those listed above?
METHOD OF SHIPMENT		COOLER TEMPERATURE		Yes ____ No ____ If Yes, 1st Known ____

UST CLOSURE ASSESSMENT

NETC BUILDING 404
CODDINGTON POINT
MIDDLETOWN, RHODE ISLAND
FACILITY ID# 198

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closures - NETC Building #404 September 15, 1994
Project No. 94137

Site: **Building 404**
Coddington Point
Middletown, Rhode Island

RIDEM Facility ID#: 198

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Center (NETC) to perform an underground storage tank (UST) closure assessment of a UST at the above referenced location. The purpose of the study was to confirm the status of the underground storage tank which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the form UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis and field screening for volatile organics.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

The area investigated is located at an active gasoline service station identified as the Navy Exchange Service Station (Building 1286). The station is located at the southeast corner of the intersection of Whipple Street and Avenue J and is indicated in the site locus plan presented as Figure 1. Building 404 formerly occupied the site, but was demolished in 1986 when the existing gas station was constructed. The subject UST area is located on the southwest corner of the property, adjacent to a concrete retaining wall. A site plan showing the locations of the UST grave and Building 404 is presented as Figure 2.

The gasoline service station is a single story, slab on grade, concrete block structure housing service bays and a retail sales area. Two pump islands and the gasoline USTs are

located on the north side of the building. A 2,500 gallon UST, located in the vicinity of the subject UST grave, holds No.2 fuel oil for the building heating system. The grounds of the property are paved with a bituminous asphalt.

USGS topographical mapping shows the site set at an elevation of 20 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955, photorevised 1970 and 1975). Site topography slopes gently downward in a generally northerly direction and is level with grade on Whipple Street.

There are no wetlands in the immediate vicinity of the UST location. The nearest surface water body is Coddington Cove, located about 400 feet to the north.

UST Description

The subject UST is described as a 2,000 gallon, single walled, steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 16. The tank formerly held No. 2 fuel oil for the boiler in Building 402. RIDEM records indicate the tank was installed in 1942.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be off the southeast corner of Building 404.

Background

NETC records indicate that the 2,000 gallon No. 2 fuel oil tank was closed and removed in 1986 as part of the demolition project for Building 404. Building 1286, a gasoline service station, was built on the subject site following the demolition activities. A record drawing titled "Navy Exchange Service Station, Site Grading and Utility Plan (Sheet 4 of 32)", dated 9/28/88, depicts the location of the existing 2,500 gallon No. 2 fuel oil tank. The existing 2,500 gallon No. 2 fuel oil tank was installed in the area of the former subject UST.

The RIDEM Underground Storage Tank Program file contained a Certificate of Registration for the 2,000 gallon steel tank. No other information was available. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment due to known or presumed degradation. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a northerly direction towards Coddington Cove. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the site included a site walkover, magnetometer survey and soil intrusive test boring. Findings are summarized below.

Site Walkover

On July 13, 1994, ERA personnel performed a site reconnaissance of the former UST location as well as a magnetometer survey. The fill and vent lines for the existing UST were observed. The metal detector survey was deemed unreliable due to the numerous buried utilities in the area and the presence of the existing 2,500 gallon UST, located beneath a concrete pad in the former tank area. No abandoned vents, fills or other evidence of an existing abandoned UST were observed during the walkover.

Test Boring

On July 14, 1994, a test boring was advanced in the vicinity of tank grave to a depth of 10.5 feet. Test boring was performed using a truck mounted auger under the direction of an ERA field engineer. Soil samples were recovered at five foot intervals using a 2 inch ID steel split spoon driven with a 140 pound hammer. Samples were inspected for physical characteristics and evidence of subsurface contamination and screened in the field for the presence of volatile organic compounds (VOCs).

Soils encountered in the borehole were found to be brown fine to medium sand and gravel, with some silt. Decomposed schist and shale was encounter at a depth of 6 feet from grade. Refusal was encountered at a depth of 10.5 feet. None of the samples recovered exhibited visual signs of contamination. Sample S-2 (taken at a depth 5-7') was sent for laboratory analysis. Groundwater was not encountered during boring activities.

Soil Screening

Soil Samples were screened in the field for the presence of volatile organic compounds (VOCs) using a portable HNu PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations. The HNu screening results are presented below.

TOTAL VOLATILE ORGANIC COMPOUND FIELD SCREENING RESULTS
NETC Building 404, Coddington Point, Newport, RI

Sample ID No.	Depth (feet)	HNu Reading (ppm)
S-1	0-2'	ND
S-2	5-7'	ND
S-3	10-10' 6"	ND

ND - not detected

Laboratory Results

The soil sample collected from boring operations was submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Method 8240. A summary of the laboratory results is presented in the table below.

LABORATORY RESULTS
NETC Building 404, Coddington Point, Middletown, RI

Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
B-404, S-2	161	ND

ND - Not detected at laboratory detection limit

No detectable concentrations of VOCs were reported by the laboratory. The petroleum hydrocarbon concentration reported by the laboratory is considered low and is not indicative of significant environmental impact from past UST leakage. The levels are attributed to interference from the fill material used during the construction of Building 1286. The laboratory detection limits are 2.0 mg/kg for VOCs and 40 mg/kg for TPH. Copies of the sample chain of custody form and the laboratory Certificates of Analysis are attached.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 2,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 404 was demolished. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

A 2,500 gallon No.2 fuel oil tank is present in the subject UST grave and serves Building 1286. No evidence was found to suggest significant subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

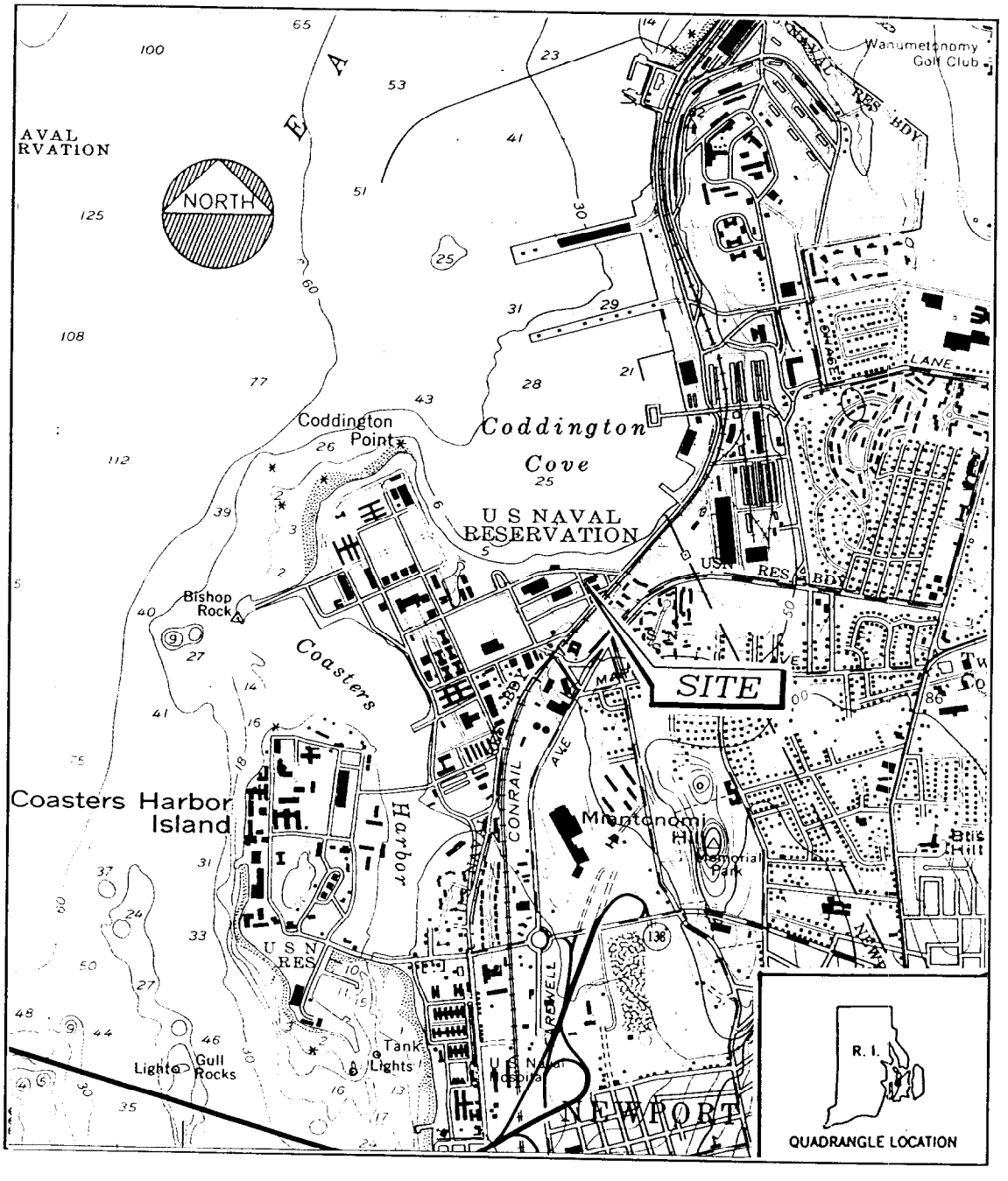
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

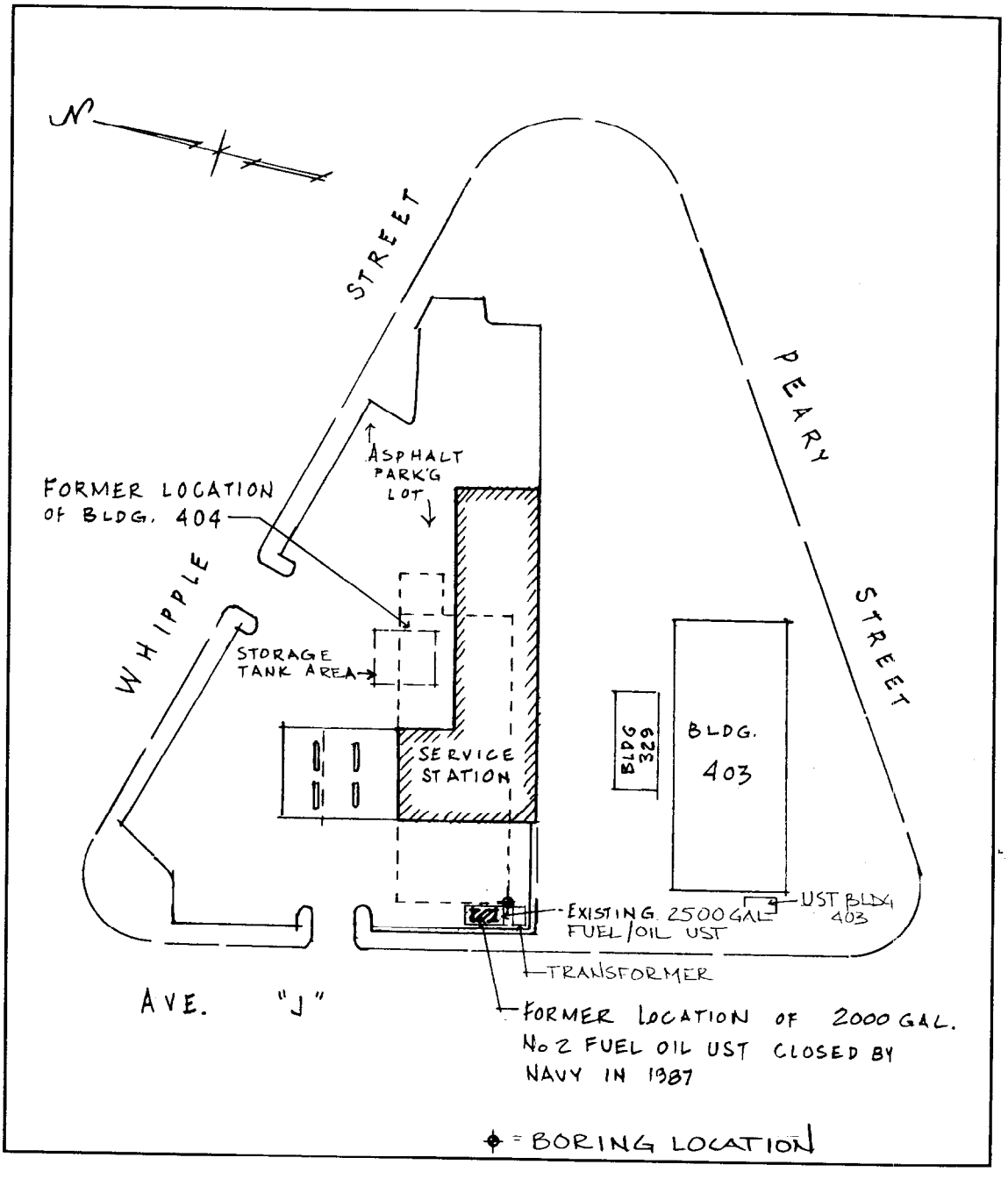
Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

FIGURE 1
SITE LOCUS
Fac #198
UST at Bldg 404, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #198
USTs at Bldg 404, Coddington Cove
NETC - Newport, R.I.

BLD 404
CODD. PT

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

CERTIFICATE # 198

CERTIFICATE OF REGISTRATION
For Underground Storage Facilities

In compliance with Chapter 46-12 of the Rhode Island General Laws, as amended and the Emergency Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials

the owner/operator of an underground storage facility located at:

Naval Education & Training Center
Building 404, Codd. Pt.
Newport, RI

is issued this Certificate of Registration to operate an underground storage facility based upon the factual representations contained in the Application for Registration (Number 198) and in accordance with the Emergency Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials and any additional terms and conditions stated below:

Tank No. 16

This Certificate of Registration can not be transferred to any other person, facility or location without the express written approval of the Director of the Department of Environmental Management, or his designee and in accordance with appropriate regulations.

This Certificate of Registration may be modified or revoked in accordance with appropriate regulations.

Signed this 22 day of March, 1985.

Reviewed by: Henry A. Sardelli, P.E.
Henry A. Sardelli, P.E.

Approved: James W. Foster
Chief, Division of Water Resources
Rhode Island Department of
Environmental Management
Providence, Rhode Island 02908

JWF/as

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF [illegible] RESOURCES
7 [illegible] STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

REGISTRATION NUMBER: 198

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER NEW F DATE: 31 JAN 85

STREET ADDRESS: Bldg 404, Codd. Point 22 /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /__/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
16 E	43 42/03	2,000	Steel 01	#2 Fuel Oil 02	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) /X/ Other Burner
(See below)

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used unknown

8) Are recovery wells installed? /__/ Yes /_x/ No

9) Are monitoring wells installed? /__/ Yes /_x/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?

/__/ Yes /_X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well

/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /_X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? _____

b) Classify the type of tank closure /__/ Temporary /__/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /__/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

UST CLOSURE ASSESSMENT

NETC BUILDING 1121
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 15011

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 1121 September 15, 1994
Project No. 94137

Site: **Building 1121**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: 15011

Introduction

Environmental Resource Associates, Inc. (ERA) was retained by the Naval Education and Training Center (NETC) to perform a underground storage tank closure assessment of an underground storage tank (UST) at the above referenced location. The purpose of the study was to confirm the status of the subject UST which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis and field screening for volatile organics.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 1121 is a multi-story, masonry and wood structure located at the northeast corner of the intersection of Meyerkord Avenue and Whipple Street on Coddington Point in the Newport Naval Base. A site locus plan is presented as Figure 1. The subject UST area is located on the east side of the building directly outside the boiler room, adjacent to the existing roadway. A site plan is presented as Figure 2. Utilities serving the area include public water, municipal sewers, and central steam heat.

USGS topographic mapping shows the site set at an elevation of 50 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955. Photorevised 1970 and 1975). Site topography slopes downward in a general northerly direction and is level with street grade. There are no wetland areas in the immediate vicinity of the UST location. The buildings in the surrounding area are utilized as classroom and office space.

There are no wetland areas in the immediate vicinity of the subject area. The nearest surface water body is Coddington Cove, located about 500 feet to the north.

UST Description

The subject UST is described as a 1,000 gallon, single walled, steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 66. The tank formerly held No. 2 fuel oil for the building boiler. RIDEM records indicate the tank was installed in March 1945.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be on the northeasterly side of Building 1121.

Background

NETC records indicate the subject building (Building 1121) was originally used as Navy Barracks. In 1949, the building was redesigned for office and classroom space. Records indicate the tank was closed and removed in 1972 when the heating system for the building was converted to central steam.

RIDEM UST records for the facility were reviewed. The file contained a Certificate of Registration, dated 1/31/85, for a 1,000 gallon steel No. 2 fuel oil tank. The registration certificate identifies the tank as abandoned. No other information was available. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment due to known or presumed degradation. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topopgraphy and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a northerly direction towards Coddington Cove. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as a Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation. Actual site conditions are discussed in the Field Activities section, presented below.

Field Activities

Field activities performed at the site included a site walkover, magnetometer survey and test boring. Findings are summarized below.

Site Walkover & Magnetometer Survey

On July 13, 1994, ERA personnel performed a site reconnaissance of the former UST location as well as a magnetometer survey. No fills, vent lines or other evidence of an existing UST was observed. No anomalous readings were recorded with the metal detector.

Test Boring

On July 14, 1994, a test boring was advanced in the vicinity of the tank grave to a depth of 6 feet. Drilling was conducted using a truck mounted hollow stem auger under the direction of an ERA field engineer. Soil samples were recovered at five foot intervals using a 2 inch split spoon driven with a 140 pound hammer. Samples were inspected for physical characteristics and evidence of subsurface contamination. The samples were screened in the field for the presence of volatile organic compounds (VOCs). Samples exhibiting levels above background were sent to a laboratory for analytical analysis for total petroleum hydrocarbons (TPH) and VOCs. Boring location is indicated in Figure 2.

Soils in the vicinity of the former tank were found to be a brown fine to medium sand from grade to a depth of three feet and weathered shale from three to six feet. Grey shale was encountered at six feet. Refusal was encountered at 6 feet. Sample S-2 (taken at a depth of 5') was retained for analytical analysis. No evidence of contamination was observed in the soils collected from the borehole. No evidence of an existing UST were noted. Groundwater was not encountered during boring. A copy of the boring logs are presented in the Appendix.

Soil Screening

Soil samples were screened in the field for the presence of volatile organics with an HNu Model PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations. The HNu screening results are presented in the table below.

TOTAL VOLATILE ORGANIC COMPOUND FIELD SCREENING RESULTS *NETC Building 1121, Coddington Point, Newport, RI*		
Sample ID No.	Depth (feet)	HNu Reading (ppm)
S-1	0-2'	ND
S-2	5-6'	4

ND - not detected

Soil sample S-2 exhibited an HNu reading, slightly above background and was submitted to a laboratory for quantitative analysis.

Laboratory Results

The soil sample collected from boring operations was submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Method 8240. A summary of the results is presented below.

LABORATORY RESULTS *NETC Building 1121, Coddington Point, Newport, RI*		
Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
B-1121, S-2	155	ND

ND - Not detected at laboratory detection limit

No detectable concentrations of VOCs were reported by the laboratory. The petroleum hydrocarbon concentration reported by the laboratory is considered low and is not indicative of significant environmental impact from past UST leakage. The levels are attributed to interference from the fill material or minor surface spillage during tank filling procedures. The laboratory detection limits are 2.0 mg/kg for VOCs and 40 mg/kg for TPH.

Copies of the sample chain of custody form and the laboratory Certificates of Analysis are included in the Appendix.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject 1,000 gallon underground storage tank was removed by the Navy in 1987, as indicated in NETC records, when Building 1121 heating system was converted to central steam. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

No evidence was found to suggest subsurface soil and groundwater impact as a result of past release or leakage from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

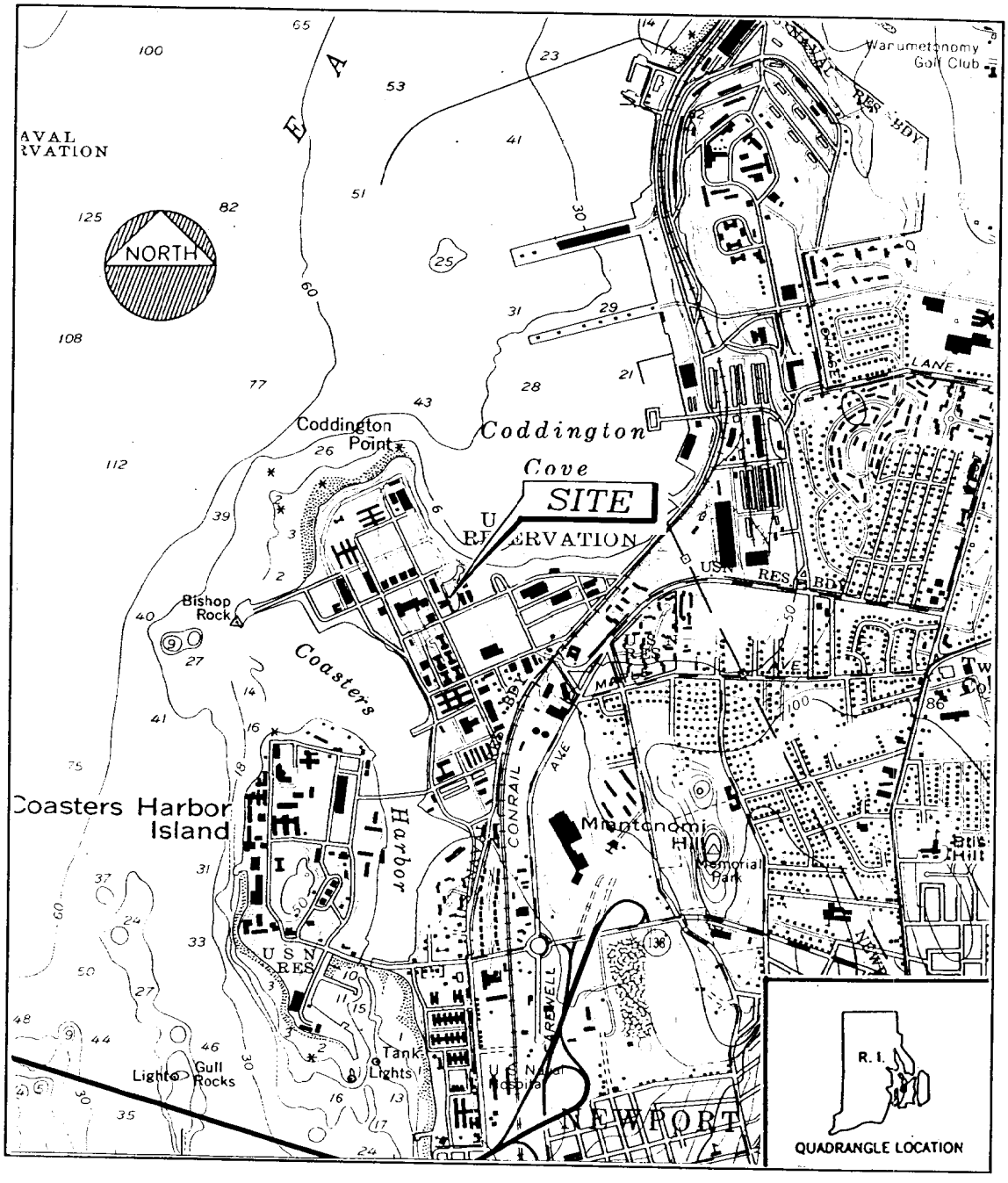
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

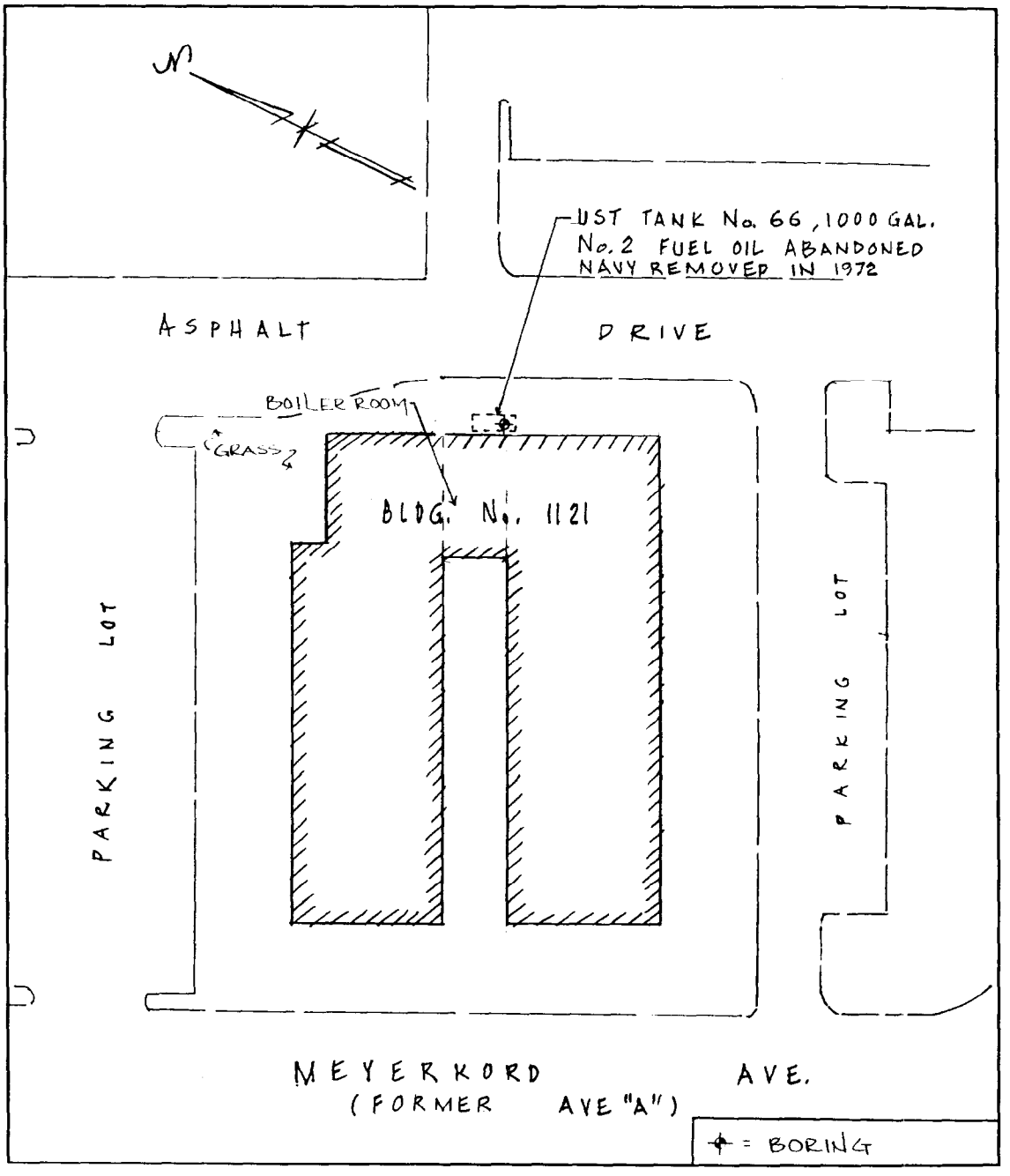
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERA

FIGURE 1
SITE LOCUS
Fac #1511
UST at Bldg 1121, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #1511
USTs at Bldg 1121, Coddington Cove
NETC - Newport, R.I.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

D·E·M

3119

App: OK

Map: OK (1501)

JM

RECEIVED

BLD 1121
CODD. PT.

CLOSURE

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

REC

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER DATE: 31 JAN 85

STREET ADDRESS: Bldg 1121, Codd. Point /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /X/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942 F

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /X/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
66	43 45 03	1,000	Steel D1	#2-Fuel-Oil D2 (abandoned)	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) (See below) /X/ Other Burner

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used unknown

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?
/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well
/__/ Surface Source /__/ Water Body (name)_____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? 1

b) Classify the type of tank closure /__/ Temporary /X/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /X/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /X/ filled or /__/ removed?

---

13) Include any additional information/remarks: _____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R. I.

SHEET 1 OF 1
DATE
HOLE NO. B-1112
LINE & STA.
OFFSET
SURF. ELEV.

TO E R A Engineering
PROJECT NAME Site Assessment @ Naval
REPORT SENT TO above / Housing
SAMPLES SENT TO Taken at Site

ADDRESS Warwick, R.I.
LOCATION Portsmouth, R.I.
PROJ. NO.
OUR JOB NO. 95-46

GROUND WATER OBSERVATIONS
At Dry after Hours
At after Hours

	CASING	SAMPLER	CORE BAR.
Type	H/S/A	S/S	
Size I.D.	4½"	1-3/8"	
Hammer Wt		140#	BIT
Hammer Fall		30"	

	Date	Time
START	7/14/94	a.m p.m
COMPLETE	7/14/94	a.m p.m
TOTAL HRS.		
BORING FOREMAN	P. Brescia	
INSPECTOR	Bill	
SOILS ENGR.		

LOCATION OF BORING:

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE No	Pen	Rec
		0'-2'	A						6" Topsoil - Loam Brown fine to medium SAND	1	24'	-
								3'				
								5'9"	Weathered SHALE			
		5'-5'9"	D	32	90/3"					2	9"	9"
									Bottom of Boring 5'9"			

GROUND SURFACE TO 5' USED Auger "CASING: THEN S/S to 5'9"

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-10	Loose	0-4	Soft
10-30	Med. Dense	4-8	M/Stiff
30-50	Dense	8-15	Stiff
50 +	Very Dense	15-30	V-Stiff
		30 +	Hard

SUMMARY:
Earth Boring 5'9"
Rock Coring
Samples 2

HOLE NO B-1112

TOWN PRESS – EAST PROV.

Received: 07/15/94 07/20/94 17:01:11

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY

CONTACT TODD

CLIENT ERA SAMPLES 13
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 7/4/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 B404/S-2
02 B404/S-2
03 B402/S-2
04 B402/S-2
05 B340/S-2
06 B340/S-2
07 B115/S-3
08 B115/S-3
09 B1112/S-2
10 B1112/S-2
11 B1920/COMP
12 B1920/COMP
13 B44/1A-2

TEST CODES and NAMES used on this workorder

8240 PURGEABLE ORGANICS VOA
TPH_IR TPH BY IR

SAMPLE ID B1112/S-2 SAMPLE # 09 FRACTIONS: A
Date & Time Collected 07/04/94 Category SOIL

TPH_IR	155
mg/Kg DL=40.0	

SAMPLE ID B1112/S-2 FRACTION 10A TEST CODE 8240 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 07/04/94 Category SOIL

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	trans-1,3-Dichloropropene	ND	2.0
Acrylonitride	ND	10	Trichloroethene	ND	2.0
Chloromethane	ND	2.0	Dibromochloromethane	ND	2.0
Bromomethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Vinyl Chloride	ND	10	Benzene	ND	2.0
Chloroethane	ND	2.0	cis-1,3-Dichloropropene	ND	2.0
Methylene Chloride	ND	10	2-Chloroethylvinylether	ND	2.0
Acetone	ND	50	Bromoform	ND	2.0
Carbon Disulfide	ND	2.0	2-Hexanone	ND	4.0
1,1-Dichloroethene	ND	2.0	4-Methyl-2-pentanone	ND	4.0
Trichlorofluoromethane	ND	2.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Total 1,2-Dichloroethene	ND	2.0	Toluene	ND	2.0
Chloroform	ND	2.0	Chlorobenzene	ND	2.0
1,2-Dichloroethane	ND	2.0	Ethyl Benzene	ND	2.0
2-Butanone	ND	10	Styrene	ND	2.0
1,1,1-Trichloroethane	ND	2.0	Total Xylenes	ND	2.0
Carbon Tetrachloride	ND	2.0	1,2-Dichlorobenzene	ND	2.0
Vinyl Acetate	ND	2.0	1,3-Dichlorobenzene	ND	2.0
Bromodichloromethane	ND	2.0	1,4-Dichlorobenzene	ND	2.0
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 07/19/94
ANALYST: XL
INSTRUMENT: HP-V2
DIL. FACTOR: 1
COMMENTS:
UNITS: ug/kg

ND = not detected at detection limit

TOXIKON

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: 94-07-0102

DUE DATE : 7-27-94

COMPANY: ERA ENGINEERING
ADDRESS : 144 BIGNALL STREET
WARWICK, RI02888

PHONE # : 401 781-7422 FAX #: 401 781-1605
P.O. # :
CLIENT CONTACT : MIKE CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. TISSUE	
OTHER	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH	VOC 624	COMMENTS
1	B404/S-2	2	8oz	G	1	7/4		NONE	*		
2	"	"	4	G	1	"				*	
3	B402/S-2	"	8	"	1	"			*		
4	"		4	"	1	"				*	
5	B340/S-2	"	8	"	1	"			*		
6	"	"	4	"	1	"				*	
7	B115/S-3	"	8	"	1	"			*		
8	"	"	4	"	1	"				*	
9	B112/S-2	"	8	"	1	"			*		
10	"	"	4	"	1	"				*	
11	B1520/COMP	"	8	"	1	"			*		
12	"	"	4	"	1	"				*	
13	B404/SA-2	"	8/4	"	1	"		"	*	*	

RELINQUISHED BY: Margaret T. Gibson	DATE: 7-15-94	RECEIVED BY: M. Davis	DATE: 7-15-94
	TIME: - -		TIME: 1700
RELINQUISHED BY: M. Davis	DATE: 7-11-94	RECEIVED BY: D. Thompson	DATE: 07-19-94
	TIME: 17-00		TIME: 1100
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -
	TIME: - -		TIME: - -
METHOD OF SHIPMENT:			

SPECIAL INSTRUCTIONS:

☐ RUSH, ... DAY TURN AROUND
☐ ROUTINE

RAPID RESPONSE

UST CLOSURE ASSESSMENT

NETC BUILDING 1920
CODDINGTON POINT
NEWPORT, RHODE ISLAND
FACILITY ID# 1512

Prepared For

Naval Education Training Center
Newport, Rhode Island
September 15, 1994

William M. Anderson, Engineer

R. Michael Clark, Project Manager

Philip P. Virgadamo, P.E., Principal

Prepared by:

Environmental Resource Associates, Inc.
Warwick, Rhode Island 02886
(401) 781-7422 Fax: (401) 781-1605

Project: UST Closure - NETC Building 1920 September 15, 1994
Project No. 94137

Site: **Building 1920**
Coddington Point
Newport, Rhode Island

RIDEM Facility ID#: **1512**

Introduction

Environmental Resource Associates, Inc (ERA) was retained by the Naval Education and Training Facility (NETC) to perform an underground storage tank (UST) closure assessment for a UST at the above referenced location. The purpose of the study was to confirm the status of the underground storage tank which NETC records indicate was excavated and removed, but is identified by the RIDEM UST Program as abandoned in place. Tasks performed as part of the closure assessment are as follows:

1. Available RIDEM and NETC records were reviewed for information concerning the subject UST.

2. A site reconnaissance and magnetometer survey was performed at the former UST location.

3. Subsurface exploration was conducted in the former UST area. Soil composition was noted and samples recovered for laboratory analysis and field screening for volatile organics.

4. Representative soil samples were submitted to a laboratory and analyzed for the presence of volatile organics and total petroleum hydrocarbons.

Site Description

Building 1920 is a former single story "Quonset Hut" which has been demolished and is no longer present. The building was located at the west end of Weenacasett Street, on the south side of Building 658 in the Coddington Point section of the Navy Base. A site locus plan is presented as Figure 1. The site is currently unimproved and utilized as a parking lot. The subject UST area is located on the northwest corner of the property adjacent to an existing utility pole. A site plan is presented as Figure 2.

U.S. Geological Survey topographic mapping shows the site set at an elevation of less than 10 feet above mean sea level (Prudence Island, RI Quadrangle, dated 1955.

Photorevised 1970 and 1975). Site topography gently slopes in an westerly direction towards Coasters Harbor and is level with street grade. Coasters Harbor is adjacent to the subject site. No other wetland areas are located in the immediate vicinity of the UST location. The surrounding buildings in the area utilized as classroom, office space and maintenance facilities.

UST Description

The subject UST is described as a 1,000 gallon, single walled, steel tank registered to the Navy Education & Training Center and identified in the RIDEM Certificate of Registration as Tank No. 67. The tank formerly held No. 2 fuel oil for the Building 1920 boiler. RIDEM records indicate the tank was installed in 1945 and last used in 1974.

The UST location is indicated in two drawings: an NETC record drawing titled " Underground Non-residential Storage Tanks, Naval Base Newport, RI (Sheet 1 of 3)", dated 1/21/70, and an NETC record drawing titled "Existing Conditions Map, Naval Complex Newport, RI (Sheet 3 of 11), dated 1/1/82. The latter plan is on file at the RIDEM Underground Storage Tank Program, Facility ID# 195. Both plans show the location of the former UST to be off the northwest corner of Building 1920.

Background

NETC records indicate the 1,000 gallon No. 2 fuel oil tank was closed and removed in 1987 as part of the building demolition project. As indicated, the site was formerly occupied by Building 1920. The tank held No.2 fuel oil for the building heating system.

RIDEM UST records for the facility were reviewed. The file contained a Certificate of Registration for the 1,000 gallon steel tank. Also in the file was a letter, dated 2/6/86, concerning an inspection of the subject site by RIDEM personnel and a Certificate of Extension of Temporary Closure, dated 2/6/86. The letter indicates the former building and the tank were present at the time of the inspection and the tank contained eight inches of product. The Certificate of Extension of Temporary Closure indicated the UST was last used in 1974 and the extension would be valid upon receipt of confirmation of product removal. No other information was found. Copies of the file contents are presented in the Appendix.

Groundwater

RIDEM mapping indicates regional groundwater in the vicinity of the site is classified as GB, defined as a groundwater resources designated as unsuitable for private or public drinking water use without treatment due to known or presumed degradation. A GB classification is typical for urban and industrial areas.

Groundwater flow generally reflects local topography and is influenced by the presence of surface water bodies. The preferred groundwater flow direction in the vicinity of the subject site is anticipated to be in a westerly direction towards Coasters Harbor. No subsurface explorations were performed to confirm this inference.

Soils

Surface soils at the subject property are defined by the U.S. Department of Agriculture, Soil Conservation Service as an Udorthents - Urban Land Complex. This complex consists of moderately well drained to excessively drained soils that have been disturbed by cutting or filling, and areas that are covered by large buildings and pavement. Udorthents are in areas that have been cut to a depth of 2 feet or more or covered with at least 2 feet of fill. Udorthents consist primarily of coarse textured soil material and a few small areas of medium textured material. The permeability of this media is variable and requires on-site investigation.

Field Activities

Field activities performed at the site included a site reconnaissance of the former UST location, a magnetometer survey and subsurface explorations, including test borings and test pit excavations. The test boring and test pit locations are indicated in Figure 2.

Site Reconnaissance & Magnetometer Survey

On July 13, 1994 ERA personnel performed a site reconnaissance and magnetometer survey of the former UST location. No fills, vent lines or other evidence of an existing UST was observed. No anomalous readings were recorded with the metal detector.

Test Boring

On July 14, 1994, a test boring was advanced in the vicinity of the tank grave using a truck mounted hollow stem auger. Soil samples were recovered at five foot intervals using a 2 inch ID steel split spoon driven with a 140 pound hammer.

The boring encountered refusal at a depth of 3 feet. Because of numerous rocks and boulders in the area, test boring activities were abandoned. A shallow soil sample collected from 0 to 2 feet was recovered and retained to log soil characteristics and volatile organic compound (VOC) screening.

The shallow soil sample (0 to 2') was comprised of fine to medium sand, fine to coarse gravel and cobbles. Sample S-1 (taken at a depth of 2 feet) was sent for laboratory analysis. Groundwater was not encountered in the test boring. A Copy of the boring logs is included in the Appendix.

Test Pits

On August 11, 1994, three test pits were excavated to a depth of 9.5 feet in the area of the tank grave. (See attached photographs at the end of the Figures Section.) Test pitting was performed with a standard backhoe under the direction of an ERA field engineer to determine the presence of an existing UST. Soil conditions were also inspected for physical evidence of contamination.

Soils encountered during test pit activities consisted of silt, sand and gravel, with numerous rocks and cobbles to a depth of 4 feet. Silts, organics and gray clay were noted from 4 to 9.5 feet. None of soil samples exhibited visual or olfactory signs of contamination. A sample collected from the bottom of the excavation was sent for laboratory analysis. Groundwater was not encountered during test pit operations.

Soil Sample Screening

Soil samples collected during boring operations were screened in the field for the presence of volatile organics with an HNu Model PI-101 photoionization detector (PID) equipped with a 10.2 eV lamp.

The HNu is a non-destructive analyzer which responds to most synthetic organic contaminants, but does not register the normal components of the air such as oxygen or carbon dioxide. The screening technique indicates relative total levels of volatile organics in

parts per million (ppm) volume relative to a benzene standard. It should be noted, that the HNu screening indicates relative total levels of volatile organics and does not identify specific compounds or actual concentrations.

The shallow soil sample collected from the test boring did not register detectable VOCs when screened with the HNu.

The test pit samples were not screened due to instrument failure in the field.

Laboratory Results

The soil samples collected from test boring and test pit operations were submitted to Toxikon Analytical Laboratories, Inc. of Woburn, Massachusetts and tested for total petroleum hydrocarbons (TPH-IR) and volatile organics using EPA Methods 8240, 8010 and 8020. A summary of the results is presented below.

LABORATORY RESULTS *NETC Building 1920, Coddington Point, Newport, RI*		
Sample ID	TPH-IR (mg/kg)	VOCs (µg/kg)
B-1920, S-1	503	ND
TP-1920	126	ND

ND - Not detected at laboratory detection Limit

No detectable concentrations of VOCs were reported by the laboratory. The petroleum hydrocarbon concentrations reported by the laboratory are slightly elevated in the boring sample. The level associated with the surface soil (boring sample S-1), is attributed to the fill composition and the area's present use as a parking lot (surface staining from vehicle drippings was noted in the area) and is not considered indicative of past UST leakage.

The TPH levels reported in the test pit sample are considered low and not indicative of significant environmental impact from past UST leakage. The test pit TPH concentrations are attributed to interference from the fill material or naturally occurring decomposition of the soil (organics were noted from 4 to 9.5 feet). The laboratory detection limits are 2.0 mg/kg for the

VOCs and 40 mg/kg for TPH. Copies of the sample chain of custody form and the laboratory Certificates of Analysis are included in the Appendix.

Conclusions

Based on the information gathered during the course of this study, it is ERA's opinion that the subject underground storage tank was removed by the Navy in 1987, as indicated in NETC records. This opinion is rendered based on a review of available NETC and RIDEM records, on-site field observations (including a metal detector survey), and subsurface soil explorations.

Subsurface soil explorations, including test boring and test pitting were performed in the former UST grave. Soil samples were inspected for evidence of subsurface contamination, screened for volatile organics with an HNu PID, and analyzed for the presence of VOCs and total petroleum hydrocarbons by a laboratory. No evidence was found to suggest significant subsurface soil or groundwater impact as a result of past leakage or a release from the subject underground tank. The RI DEM should issue the NETC a Certificate of Closure and correct their master list to indicate the tank was closed. It is ERA's opinion that further site investigation or remediation is not warranted.

Limitations

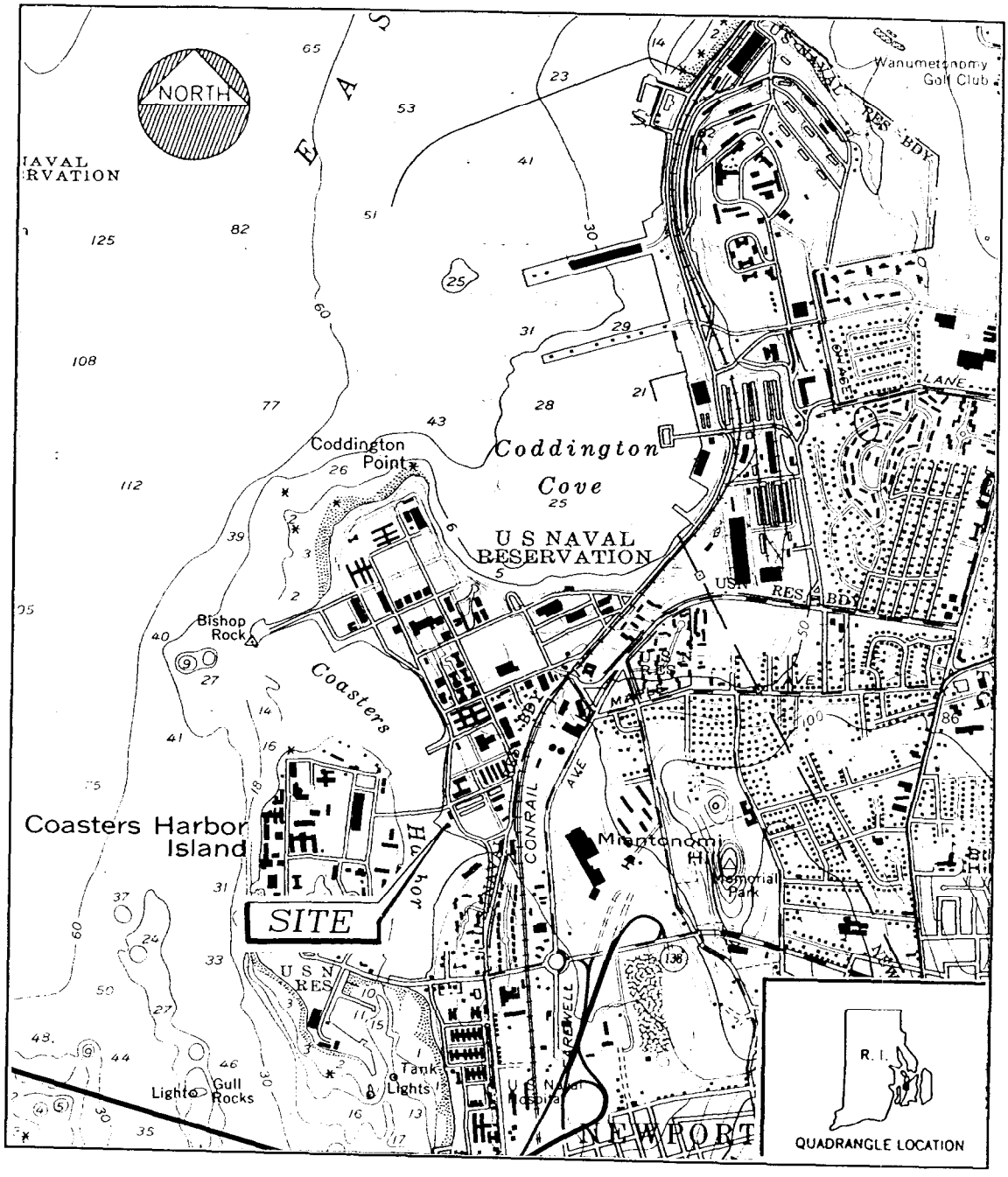
The work reported herein was conducted to assess the physical characteristics of the referenced site with respect to the presence of underground storage tanks and the potential release of oil or hazardous material. Past owners of the site were not contacted regarding their compliance with federal, state or local laws and regulations.

In preparing this report, ERA relied on information supplied by state and local officials and other parties familiar with the site and record searches conducted of files made available by state and local agencies. ERA did not attempt to verify the accuracy or completeness of all the information reviewed or received during the course of this site assessment. Information gathered from the records search and site walkover, as presented, is considered accurate up until the times performed, as stated in the report.

Observations were made during the site walk over as indicated in this report. ERA cannot render an opinion as to the presence of oil or hazardous substances in those areas where access was unavailable or limited, or in those areas where direct observations were obstructed by objects or coverings.

Subsurface soil test borings and test pit explorations were placed using good engineering judgement. While every effort was made to identify the presence of USTs and assess general subsurface environmental quality that is representative of conditions at the site, ERA cannot guarantee the data presented is typical of all conditions across the site.

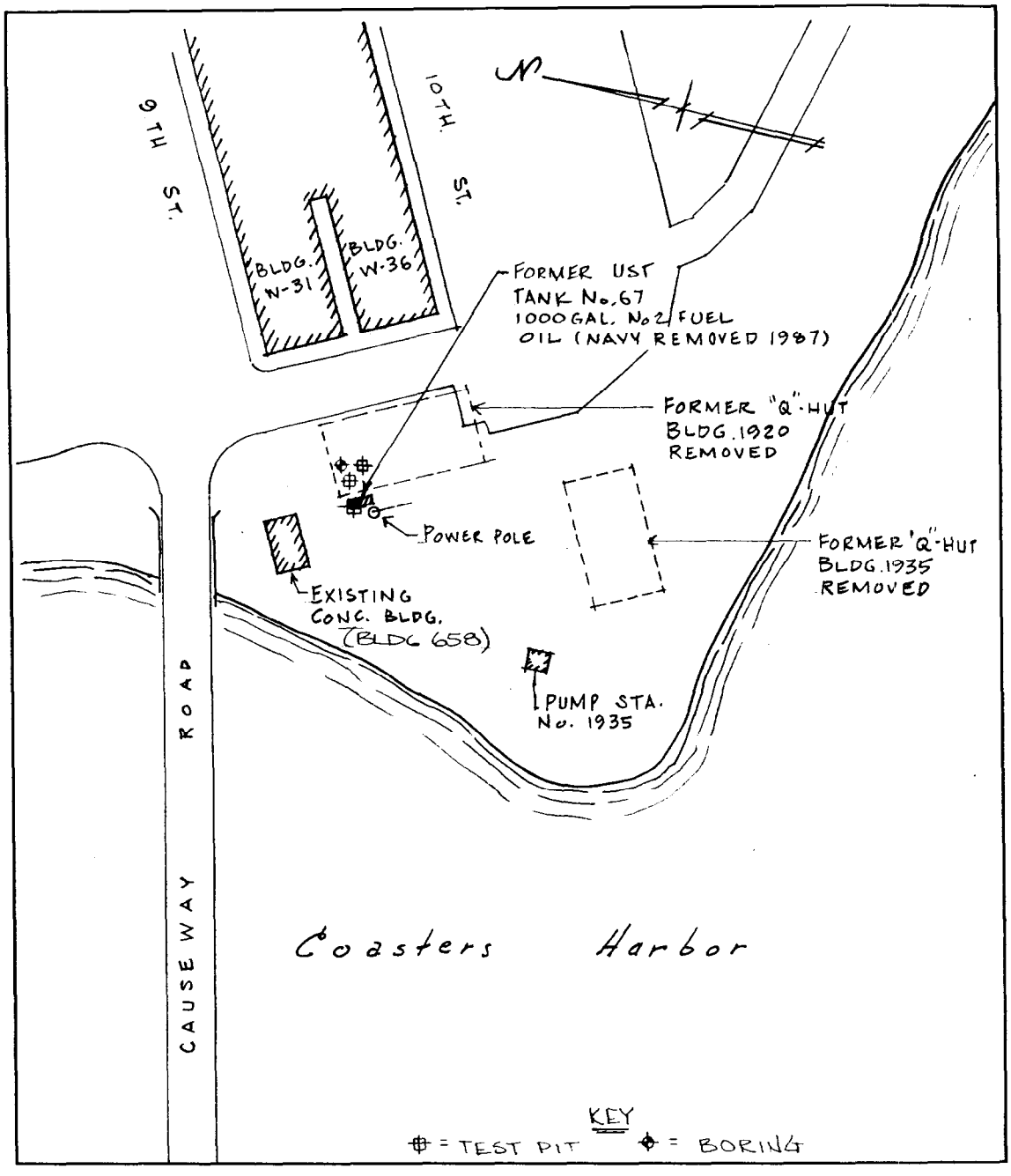
This report was prepared for the exclusive use and distribution by the U.S. Naval Education and Training Center, solely for the use in an environmental evaluation of the site. This report was prepared with generally accepted engineering practices. The findings and conclusions contained within are not presented as scientific certainties but rather rendered as a professional opinion. No warrantee expressed or implied is made.



Ref: USGS Map - Prudence Island, RI Quadrangle
Scale - 1:24,000

ERA

FIGURE 1
SITE LOCUS
Fac #1512
UST at Bldg 1920, Coddington Cove
NETC - Newport, R.I.



NOTE: Not To Scale

FIGURE 2
SITE PLAN
Fac #1512
USTs at Bldg 1920, Coddington Cove
NETC - Newport, R.I.

NETC Building 1920 - Test Pit Excavation

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
75 DAVIS STREET ROOM 209
PROVIDENCE, RHODE ISLAND 02908
(401) 277-2234

BLD 1920
CODD. PT
CLOSED

APPLICATION

For Underground Storage Facilities
- Certificate of Registration -

REGISTRATION NUMBER: 15012

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER DATE: 31 JAN 85

STREET ADDRESS: Bldg 1920 , Codd. Point /X/ OWNER

CITY/TOWN: Newport, RI ZIP 02841 /__/ OPERATOR

1) Is this a /__/ New or /X/ Existing Facility?

2) Date operation commenced 1942 F

3a) If a New facility, is a set of detailed engineering plans and project specifications, including operation and maintenance requirements enclosed? /__/ Yes /__/ No (See Section 6,b,1)

b) If an Existing facility, is a site plan of all equipment locations enclosed? (See Section 6,b,2) /X/ Yes /__/ No

4) PRECISION TESTING

(a) Are precision testing results available? /__/ Yes /X/ No
Enclose these results if available.

(b) Date of most recent precision testing _____

(c) Specify where testing has been performed /__/ Tanks /__/ Lines

(d) Specify when testing was performed /__/ Before installation /__/ After installation

5) TANK INFORMATION

No.	Age	Volume	Material/ Construction	Stored Material	Tank Corrosion Protection Devices
67	43 45 53	1,000	Steel 01	#2-Fuel-Oil (abandoned) 02	None 98

6) Dispensing Pump System /__/ Island /__/ *Remote (Sump) /X/ Other Burner
(See below)

a) Line Leak Detection System Installed /__/ Yes /X/ No

b) Does the base of the dispensing unit have an emergency shut off valve? /__/ Yes /X/ No

7) U.L. Standard Used ____ unown

8) Are recovery wells installed? /__/ Yes /X/ No

9) Are monitoring wells installed? /__/ Yes /X/ No

10) Does a drinking water supply exist within 1,000 feet of the facility location?
/__/ Yes /X/ No

Specify Type: /__/ Public /__/ Private /__/ Underground Well
/__/ Surface Source /__/ Water Body (name)____

11) Have any leaks or spills occurred at this facility? /__/ Yes /X/ No
(Please attach report/description of incident)

---

12) COMPLETE THIS SECTION IF THERE ARE ABANDONED OR EMPTY TANKS AT FACILITY

a) How many tanks are presently abandoned or empty? 1

b) Classify the type of tank closure /__/ Temporary /X/ Permanent
(See Section 13)

c) Has precision testing been conducted on the empty tanks? /__/ Yes /X/ No
(Please include these results if available)

d) Results of precision test /__/ Positive (leaks) /__/ Negative (no leaks)

e) Will empty or abandoned tanks be /__/ filled or /X/ removed?

---

13) Include any additional information/remarks: ____

See DEM "Regulations for Underground Storage Facilities Used for Petroleum Products and Hazardous Materials"

Submitted by: Martin J. Dwyer, Code 42P

Address: NETC, Newport, RI 02841

Telephone Number: 401-841-3735

info. for add'l - see file #211 - letter from Sarah

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF WATER RESOURCES
83 Park Street
Providence, Rhode Island 02903
(401) 277-3961

CERTIFICATE NO. 150121

CERTIFICATE OF EXTENSION OF TEMPORARY CLOSURE
FOR UNDERGROUND STORAGE FACILITIES

In compliance with Chapter 46-12 of the Rhode Island General Laws, as amended, and the Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials,

N.E.T.C., Newport

owner/operator of an underground storage facility located at

Coddington Point, Bldg. 1920

is issued this Certificate of Extension of Temporary Closure indicating that the storage tanks described below have been temporarily taken out of service, in compliance with the Regulations for Underground Storage Facilities used for Petroleum Products and Hazardous Materials.

Remarks:
Tank contains product. Conditions of this extension are therefore predicated on the receipt of paperwork attesting to the fact that the tanks have been pumped clean. Pumped product should be handled according to applicable regulations.

Signed this 6th day of February, 1986
Your extension expires on the 6th day of August, 1986
Reviewed by: Sarah H. Cunningham
Approved: For James Fester by Laura Schnider
Chief, Division of Water Resources
Department of Environmental Management
Providence, Rhode Island 02903

MDR/dmb

EX SION OF TEMPORARY CLOSURE CHECK ST

DATE: FEBRUARY 6, 1986

FACILITY NAME: NAVAL EDUCATION & TRAINING CENTER

ADDRESS: BUILDING 1920, CODDINGTON POINT, NEWPORT, RI

REGISTRATION NO.: 15,012 - T

TANK OWNER/OPERATOR: NAVAL EDUCATION & TRAINING CENTER

	TANK# 67	TANK#	TANK#	TANK#
TANK STATUS				
1. Tank Age:	43			
2. Estimated Date Tank Last Used:	~1974			
3. Estimated Capacity	1,000			
4. Material of Consturction	STEEL			
PRODUCT STATUS				
1. Is Tank Empty?	NO			
2. Does Tank Have Product Inside? (in)	YES ( )	( )	( )	( )
3. Product Stored or Last stored in Tank	#2 FUEL OIL			
CLOSURE STATUS				
1. Are Fill Lines, Gauge Openings and Pump Suction Lines Capped and Secure?	YES			
2. Are Vent Lines Open?	YES			

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signed by: Michael Davenport

Title: Environmental Engr.

Telephone: (401) 841-3735

MDR/dmb

GUILD DRILLING CO., INC.

100 WATER STREET EAST PROVIDENCE, R I.

SHEET 1 OF 1
DATE
HOLE NO. B-1920
LINE & STA.
OFFSET
SURF. ELEV.

TO E R A Engineering
PROJECT NAME Site Assessment @ Naval
REPORT SENT TO above / Housing
SAMPLES SENT TO Taken at Site

ADDRESS Warwick, R.I.
LOCATION Portsmouth, R.I.
PROJ. NO.
OUR JOB NO. 95-46

GROUND WATER OBSERVATIONS
At _____ after _____ Hours
At _____ after _____ Hours

	CASING	SAMPLER	CORE BAR.
Type	H/S/A		
Size I D	4¼"		
Hammer Wt			BIT
Hammer Fall			

	Date	Time
START	7/14/94	a.m. p.m.
COMPLETE	7/14/94	a.m. p.m.
TOTAL HRS.		
BORING FOREMAN	P. Brescia	
INSPECTOR	Bill	
SOILS ENGR.		

LOCATION OF BORING

DEPTH	Casing Blows per foot	Sample Depths From - To	Type of Sample	Blows per 6" on Sampler From 0-6	To 6-12	To 12-18	Moisture Density or Consist.	Strata Change Elev.	SOIL IDENTIFICATION Remarks include color, gradation, Type of soil etc. Rock-color, type, condition, hardness, Drilling time, seams and etc.	SAMPLE No	Pen	Rec
		0'-2'	A						Fine to medium SAND & fine to coarse Gravel, Cobbles	1	24	' -
								3'	Refusal - Bottom of Boring 3'			
									Poss. Rock or Boulder			

GROUND SURFACE TO 3' USED Auger "CASING: THEN

Sample Type
D=Dry C=Cored W=Washed
UP=Undisturbed Piston
TP=Test Pit A=Auger V=Vane Test
UT=Undisturbed Thinwall

Proportions Used
trace 0 to 10%
little 10 to 20%
some 20 to 35%
and 35 to 50%

140 lb Wt. x 30" fall on 2" O.D. Sampler

Cohesionless Density		Cohesive Consistency	
0-10	Loose	0-4	Soft
10-30	Med. Dense	4-8	M/Stiff
30-50	Dense	8-15	Stiff
50 +	Very Dense	15-30	V-Stiff
		30 +	Hard

SUMMARY
Earth Boring 3'
Rock Coring
Samples 1

HOLE NO B-1920

TOWN PRESS — EAST PROV.

Received: 07/15/94 07/20/94 17:01:11

REPORT ERA ENGINEERING
TO 144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED TOXIKON CORPORATION
BY 225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY
CONTACT TODD

CLIENT ERA SAMPLES 13
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 7/4/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 B404/S-2
02 B404/S-2
03 B402/S-2
04 B402/S-2
05 B340/S-2
06 B340/S-2
07 B115/S-3
08 B115/S-3
09 B1112/S-2
10 B1112/S-2
11 B1920/COMP
12 B1920/COMP
13 B44/1A-2

TEST CODES and NAMES used on this workorder

8240 PURGEABLE ORGANICS VOA
TPH IR TPH BY IR

SAMPLE ID B1920/COMP SAMPLE # 11 FRACTIONS: A
Date & Time Collected 07/04/94 Category SOIL

TPH_IR 503
mg/Kg DL=40.0

SAMPLE ID B1920/COMP FRACTION 12A TEST CODE 8240 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 07/04/94 Category SOIL

PURGEABLE ORGANICS VOA

	RESULT	LIMIT		RESULT	LIMIT
Acrolein	ND	100	trans-1,3-Dichloropropene	ND	2.0
Acrylonitride	ND	10	Trichloroethene	ND	2.0
Chloromethane	ND	2.0	Dibromochloromethane	ND	2.0
Bromomethane	ND	2.0	1,1,2-Trichloroethane	ND	2.0
Vinyl Chloride	ND	10	Benzene	ND	2.0
Chloroethane	ND	2.0	cis-1,3-Dichloropropene	ND	2.0
Methylene Chloride	ND	10	2-Chloroethylvinylether	ND	2.0
Acetone	ND	50	Bromoform	ND	2.0
Carbon Disulfide	ND	2.0	2-Hexanone	ND	4.0
1,1-Dichloroethene	ND	2.0	4-Methyl-2-pentanone	ND	4.0
Trichlorofluoromethane	ND	2.0	Tetrachloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0	1,1,2,2-Tetrachloroethane	ND	2.0
Total 1,2-Dichloroethene	ND	2.0	Toluene	ND	2.0
Chloroform	ND	2.0	Chlorobenzene	ND	2.0
1,2-Dichloroethane	ND	2.0	Ethyl Benzene	ND	2.0
2-Butanone	ND	10	Styrene	ND	2.0
1,1,1-Trichloroethane	ND	2.0	Total Xylenes	ND	2.0
Carbon Tetrachloride	ND	2.0	1,2-Dichlorobenzene	ND	2.0
Vinyl Acetate	ND	2.0	1,3-Dichlorobenzene	ND	2.0
Bromodichloromethane	ND	2.0	1,4-Dichlorobenzene	ND	2.0
1,2-Dichloropropane	ND	2.0			

Notes and Definitions for this Report:

DATE RUN: 07/19/94
ANALYST: XL
INSTRUMENT: HP-V2
DIL. FACTOR: 1
COMMENTS:
UNITS: ug/kg

ND = not detected at detection limit

toxikon

225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

WORK ORDER #: 94-07-1002

DUE DATE : 7-22-94

COMPANY: ERA ENGINEERING
ADDRESS : 144 BIGNALL STREET
WARWICK, RI 02888

PHONE # : 401 781-7422 FAX #: 401 781-1605
P.O. # :
CLIENT CONTACT : MIKE CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE	CONTAINER TYPE
1. WATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. TISSUE	
OTHER	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: TPH	ANALYSES: VOC BTEX	COMMENTS
1	B404/S-2	2	8oz	G	1	7/14		N.A.	X		
2	"	"	4	G	1	"				X	
3	B402/S-2	"	8	"	1	"			X		
4	"		4	"	1	"				X	
5	B340/S-2	"	8	"	1	"			X		
6	"	"	4	"	1	"				X	
7	B115/S-3	"	8	"	1	"			X		
8	"	"	4	"	1	"				X	
9	B112/S-2	"	8	"	1	"			X		
10	"	"	4	"	1	"				X	
11	B120/comp	"	8	"	4	"			X		
12	"	"	4	"	1	"				X	
13	B44/1A-2	"	8/4	"	1/1	"		"	X	X	

RELINQUISHED BY: S. Thompson/T. Carlson	DATE: 7-15-94	RECEIVED BY: M. Davis	DATE: 7-15-94
	TIME: - -		TIME: 15-00-PM
RELINQUISHED BY: M. Davis	DATE: 7-11-94	RECEIVED BY: D. Thompson	DATE: 07-15-94
	TIME: 17-00-PM		TIME: 1100 -
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -
	TIME: - -		TIME: - -
METHOD OF SHIPMENT:			

SPECIAL INSTRUCTIONS:

☐ RUSH, ... DAY TURN AROUND
☐ ROUTINE

RAPID RESPONSE

Received: 08/16/94 08/23/94 16:22:09

REPORT TO: ERA ENGINEERING
144 BIGNALL STREET
WARWICK RI
(401)781-7422 FAX 781-1605
ATTEN MIKE CLARK

PREPARED BY: TOXIKON CORPORATION
225 WILDWOOD AVE
WOBURN, MA 01801
ATTEN PAUL LEZBERG
PHONE (617)933-6903

CERTIFIED BY:

CONTACT TODD

CLIENT ERA SAMPLES 5
COMPANY ERA ENGINEERING
FACILITY 144 BIGNALL STREET
WARWICK RI

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID 94137
TAKEN 8/11/94
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

Verified By:
MA Cert # MA064:

SAMPLE IDENTIFICATION

01 TP-402
02 TP-115
03 TP-1920
04 TP-304
05 TP-302

TEST CODES and NAMES used on this workorder

8010 PURGEABLE HALOCARBONS
8020 PURGEABLE AROMATICS
TPH IR TPH BY IR

SAMPLE ID TP-1920 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 08/11/94 Category SOIL

TPH_IR 126
mg/Kg DL=40.0

SAMPLE ID TP-1920 FRACTION 03A TEST CODE 8010 NAME PURGEABLE HALOCARBONS
Date & Time Collected 08/11/94 Category SOIL

PURGEABLE HALOCARBONS

	RESULT	LIMIT
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Dichlorodifluoromethane	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	2.0
Trichlorofluoromethane	ND	2.0
1,1-Dichloroethene	ND	2.0
1,1-Dichloroethane	ND	2.0
trans-1,2-Dichloroethene	ND	2.0
Chloroform	ND	2.0
1,2-Dichloroethane	ND	2.0
1,1,1-Trichloroethane	ND	2.0
Carbon tetrachloride	ND	2.0
Bromodichloromethane	ND	2.0
1,2-Dichloropropane	ND	2.0
Trans-1,3-Dichloropropane	ND	2.0
Trichloroethene	ND	2.0
cis-1,3-Dichloropropene	ND	2.0
1,1,2-Trichloroethane	ND	2.0
Dibromochloromethane	ND	2.0
2-Chloroethylvinyl ether	ND	2.0
Bromoform	ND	2.0
1,1,2,2-Tetrachloroethane	ND	2.0
Tetrachloroethene	ND	2.0
Chlorobenzene	ND	2.0
1,4-Dichlorobenzene	ND	2.0
1,3-Dichlorobenzene	ND	2.0
1,2-Dichlorobenzene	ND	2.0

Notes and Definitions for this Report:

UNITS: ug/Kg
DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1

ND = not detected at detection limit

SAMPLE ID TP-1920 FRACTION 03A TEST CODE 8020 NAME PURGEABLE AROMATICS
Date & Time Collected 08/11/94 Category SOIL

EPA 8020

	RESULT	LIMIT
BENZENE	ND	2.0
TOLUENE	1.0	2.0
ETHYLBENZENE	ND	2.0
XYLENES (TOTAL)	ND	2.0

Notes and Definitions for this Report:

DATE RUN: 08/20/94
ANALYST: PL
INSTRUMENT: LSC-2
DIL. FACTOR: 1
UNITS: ug/Kg
ND = not detected at detection limit

TOXIKON
225 Wildwood Ave., Woburn, MA 01801
Telephone: (617) 933-6903
Fax: (617) 933-9196

CHAIN OF CUSTODY RECORD

RAPID RESPONSE

WORK ORDER #: [illegible] - [illegible]

DUE DATE : [illegible] - [illegible] - [illegible]

COMPANY: ERA ENGINEERING
ADDRESS: 144 BIGNALL ST.
WARWICK, RI 02888
PHONE #: (401) 781-7422 FAX #: (401) 781-1605
P.O. #:
PROJECT MANAGER: Mike CLARK
PROJECT ID/LOCATION: 94137

SAMPLE TYPE
1. WASTEWATER
2. SOIL
3. SLUDGE
4. OIL
5. DRINKING WATER
6. WATER (GW/MW/SW)
7. OTHER (SPECIFY

CONTAINER TYPE
P - PLASTIC
G - GLASS
V - VOA

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	TPH-IC	VOC (8010/8020)										COMMENTS
1	TP-402	soil	8oz	G	1	8/11		None	X	X										
2	TP-115	"	"	G	1	"		"	X	X										
3	TP-1920	"	"	G	1	"		"	X	X										
4	TP-304	"	"	G	1	"		"	X	X										
5	TP-302	"	"	G	1	"		"	X	X										

SAMPLED BY: William M. Anderson	DATE: 8 - 11 - 97 TIME: - -	RECEIVED BY: M [illegible]	DATE: [illegible] - [illegible] - 97 TIME: [illegible]
RELINQUISHED BY: [illegible]	DATE: 8 - 12 - 97 TIME: 17-00 - PM	RECEIVED BY: [illegible]	DATE: [illegible] TIME: [illegible]
RELINQUISHED BY:	DATE: - - TIME: - -	RECEIVED FOR LAB BY:	DATE: - - TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

SPECIAL INSTRUCTIONS:

☐ RUSH ..... BUSINESS DAY TURN AROUND
☐ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ____ If Yes, 1st Known ____________